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Pacific **PULP & PAPER** *Industry*

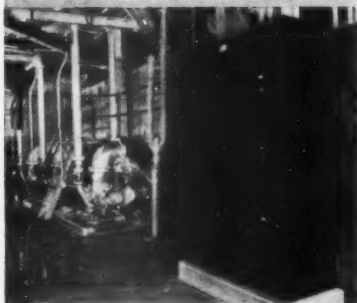
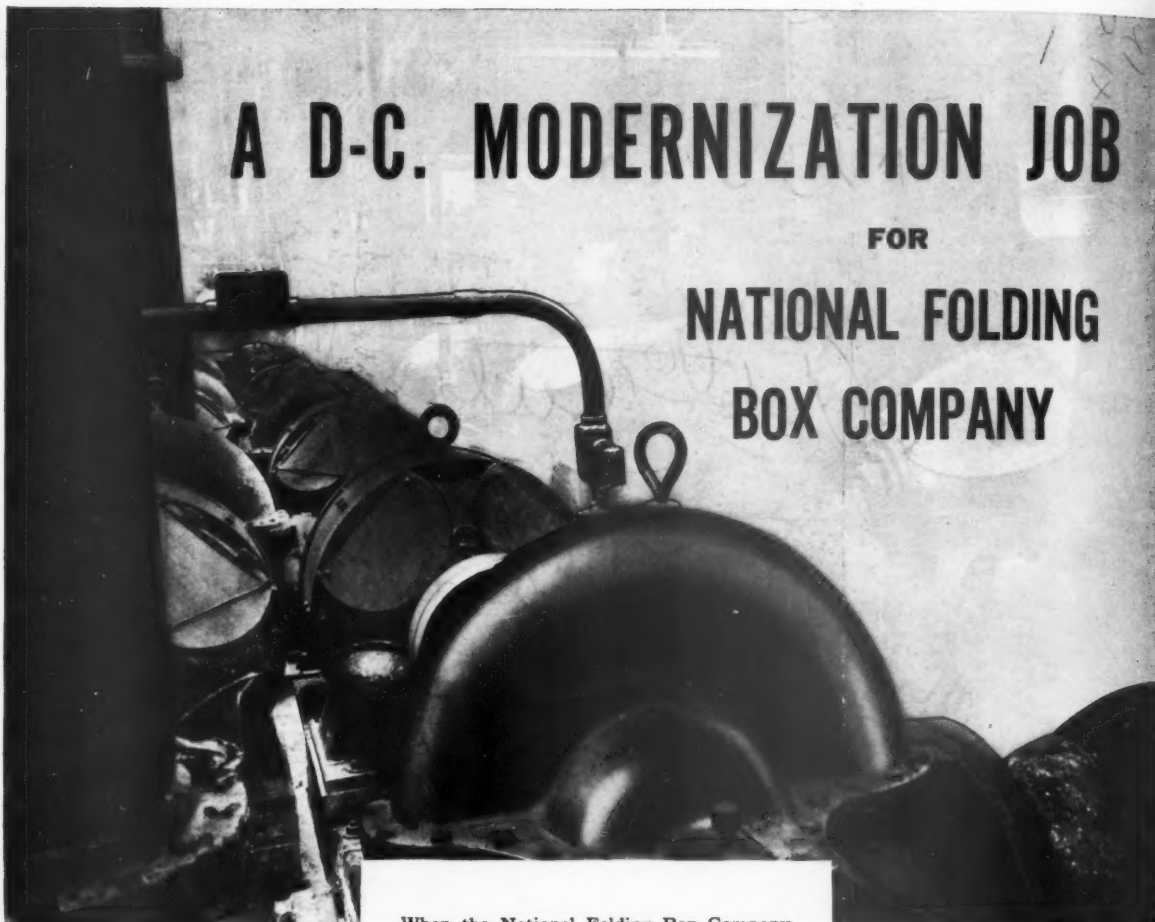
The OREGON PULP & PAPER CO.
Salem, Oregon

Producers of Bleached and Unbleached
Sulphite Papers

A D-C. MODERNIZATION JOB

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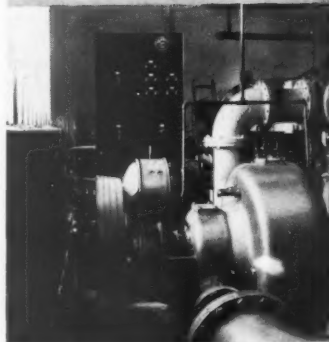
NATIONAL FOLDING BOX COMPANY



Typical distribution panelboard, using Nofuze "De-ion" Breakers as disconnect switches, with Motor Starters.

When the National Folding Box Company decided to modernize its New Haven mill, its engineers called upon Westinghouse, the supplier of the original equipment. A D-C. mill throughout, its rejuvenation through new ideas and apparatus was an interesting job. A complete auxiliary drive was applied to the wet end of a cylinder machine. A large battery of Westinghouse splash-proof motors was installed to drive the pumps and miscellaneous equipment. Larger motors were provided for direct coupling to Jordans. A 50-hp. motor and two small gearmotors provide the disintegrator drive. Dependable control of all drives is provided through a series of eight distribution panelboards.

Savings such as those anticipated with this new equipment are common in many mills which have turned to Westinghouse for electrification. Whether your plans call for new mills or modernization, it will pay you to get the benefit of Westinghouse experience in this highly specialized field. It is at your disposal without obligation—by simply calling your nearest Westinghouse office. J 93263 Westinghouse Electric, East Pittsburgh, Pa.



Westinghouse 50-hp. motor connected through V-belt to disintegrator drive, with centralized control panel in the background.

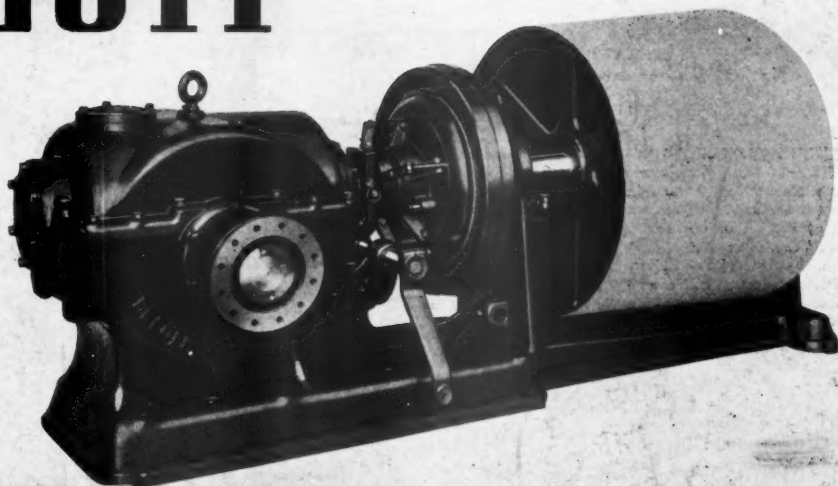
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FROM INCOMING LINE TO DRIVEN MACHINE

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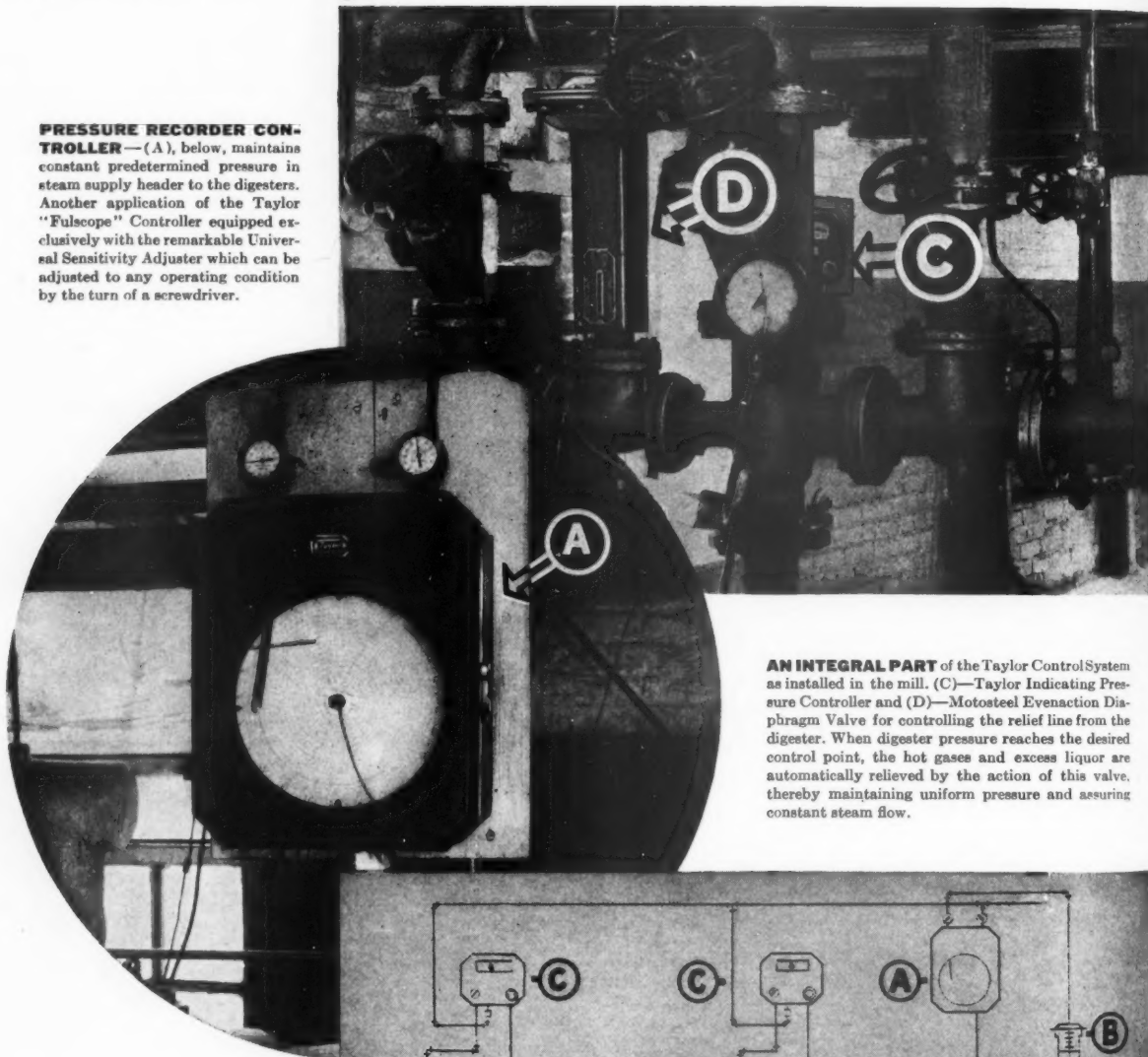


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BELOIT IRON WORKS, Beloit, Wisconsin, U. S. A.

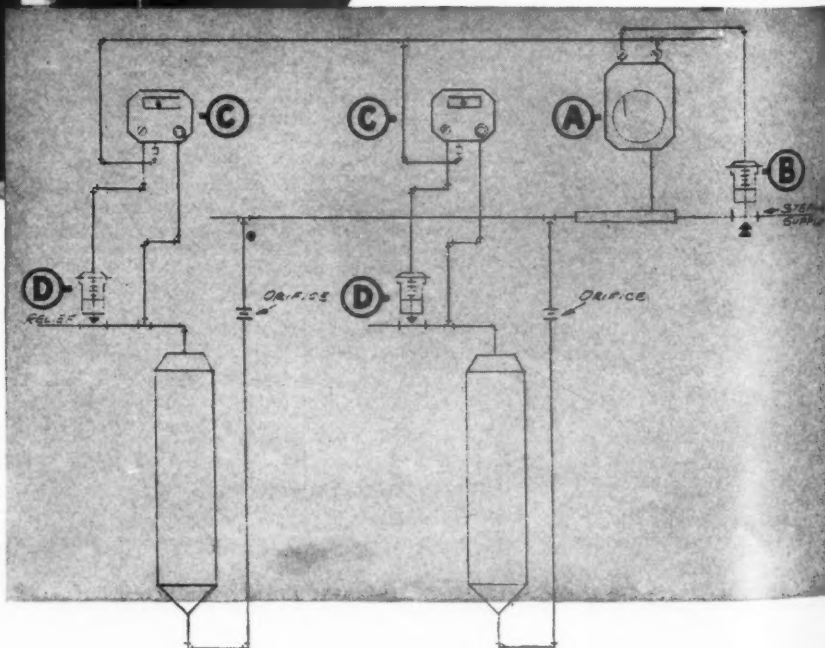
Two years' success

PRESSURE RECORDER CONTROLLER—(A), below, maintains constant predetermined pressure in steam supply header to the digesters. Another application of the Taylor "Fulscope" Controller equipped exclusively with the remarkable Universal Sensitivity Adjuster which can be adjusted to any operating condition by the turn of a screwdriver.



AN INTEGRAL PART of the Taylor Control System as installed in the mill. (C)—Taylor Indicating Pressure Controller and (D)—Motosteel Evenaction Diaphragm Valve for controlling the relief line from the digester. When digester pressure reaches the desired control point, the hot gases and excess liquor are automatically relieved by the action of this valve, thereby maintaining uniform pressure and assuring constant steam flow.

DIAGRAM OF TYPICAL CONTROL INSTALLATION on sulphite pulp digesters. (A) shows "Fulscope" Pressure Controller which regulates Motosteel Valve (B) to control the steam supply to the digester. (C) shows "Fulscope" Indicating Controllers which regulate relief line from the digester, and (D) relief line control valve.



*Copy of letter in our files from a well known Eastern sulphite paper specialty mill—one example of the benefits leading mills are obtaining with Taylor Sulphite Pulp Digester Control.

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*The Journal of the
Pacific Coast Industry*

September • 1937

Vol. 11 — No. 9

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SUBSCRIPTION RATES

United States and Canada.....	\$4.00
Other Countries.....	\$5.00
Single Copies.....	\$.35
Review Number.....	\$1.00

Foreign Pulp Nearly 80% Sold For 1938

Analyzing the Japanese Market Situation

The soundness of the European pulp producing and marketing situation for the balance of this year and for 1938 is indicated by authoritative advices to this journal from abroad.

As of July 30th, 92 per cent of the Swedish sulphite pulp production for 1937 was sold and 98 per cent of the Swedish kraft for this year was contracted for.

For the year 1938 the Swedish sulphite pulp industry had already contracted for 74 per cent of production on July 30th. Swedish kraft producers at the same date had sold 80 per cent of their 1938 production.

The Finnish situation is even stronger with 106 per cent of this year's sulphite sold on July 30th. This oversold condition means that some buyers will have to wait until 1938 for deliveries on this year's orders. Finnish kraft was 95 per cent sold.

For 1938 delivery the Finnish producers had on July 30th sold 81 per cent of their prospective sulphite pulp and 80 per cent of the 1938 kraft production.

This healthy condition appears to insure continued strength of wood pulp prices for 1938, barring unforeseen upset.

For the fourth quarter of 1937 the price of domestic bleached sulphite pulp has been advanced \$5 per ton, from \$65 to \$70, about enough to cover the increase in costs during the third quarter. Unbleached sulphite pulp was also advanced \$5 per ton, ex dock Atlantic seaboard, from \$52 and \$54 to \$57 and \$59 per ton.

The undeclared war between Japan and China has caused some worry among pulp men, but as the situation is examined, fears tend to disappear.

Several Pacific Coast unbleached sulphite pulp mills have felt the effect of the Oriental disturbance through inability to obtain cargo space and through the cancellation of some Japanese orders. However, this pulp is being diverted to domestic and European buyers.

Almost simultaneously with the trouble in the Oriental market, English paper mills appeared as buyers of Pacific Coast unbleached sulphite, offering good tonnages and satisfactory prices. Faced with prices even higher than paid in the United States and with an insufficient supply of available Swedish, Finnish and Norwegian pulp, the British mills are turning to the Pacific Coast for a permanent supply of part of their pulp requirements.

Pacific Coast bleached sulphite pulp mills selling to Japan have not as yet been affected by the Japanese-Chinese conflict, primarily because their pulp is of rayon grade and considered more essential to Japan than unbleached sulphite which goes into paper.

In the best informed circles it is not

considered likely that the Oriental trouble will cause cancellation of orders for rayon pulp, although it is admitted the possibility exists. The analysis offered as a basis for confidence is this: Japan has in recent years put forth tremendous efforts to become the largest rayon yarn producing country in the world, a position which she achieved in 1936. This year her efforts have been concentrated upon the development of staple fiber production (short cut rayon yarn). At the beginning of 1937 the Japanese program of staple fiber development was reported to involve an increase in productive capacity of around 300 per cent before the end of 1937. Whether this will now be achieved is not determinable at the moment, but it is known that Japanese capacity has increased rapidly in the first eight months of the current year.

The tariff barriers raised throughout the world against cheap Japanese rayon goods has brought about the tremendous pressure for development of staple fiber. These tariffs are largely against straight rayon. By mixing staple fibre with the long rayon filament yarn, most of the tariff barriers can be circumvented, temporarily at least. Besides, this mixture permits the development of new patterns and new fabric styles, a trend to be found in all rayon producing countries.

It is also important to note that Japan exports the greater part of her rayon production. It is not considered likely that she will permit her world-wide rayon and staple fiber trade, built up at the expense of tremendous effort in recent years, to disintegrate without a fight. To maintain this rayon and staple fiber export trade, which brings in needed foreign exchange, Japan needs bleached sulphite pulp.

So, although the licensing of imports by the Japanese government has been tightened in recent weeks, foreign exchange and import permits for bleached sulphite pulp continue unaffected.

The question of the United States applying the Neutrality Act to Japan and China has been raised as a potential threat to exports of bleached sulphite for rayon from the Pacific Coast mills. As long as war is not declared between China and Japan, it is not mandatory upon the United States government to apply the stringent provisions of the act. If an actual declaration of war is made and the Neutrality Act applied to both countries, there is still the question as to whether bleached sulphite pulp for rayon would be considered as war material. A difference of opinion exists over this point.

Another assumption frequently discussed in pulp circles is that Japan might drastically curtail her rayon and staple fiber production as a war economy measure. While we have already noted that this is unlikely, because Japan's rayon and staple fiber production is

largely exported and provides much needed foreign exchange, it is a possibility being considered. Were this to occur, it is believed that the rayon and staple fiber export markets developed in recent years by Japan would be gradually taken over by other rayon and staple fiber producing countries, Germany, Great Britain, France and Italy. Hence, their raw material demands would increase, absorbing the rayon pulp now being consumed by Japanese mills.

At the present time the foregoing is entirely speculation, but it is of interest to analyze the potential results were the Japanese rayon pulp market lost to American producers.

Already, in September, unbleached sulphite producers on the Pacific Coast have felt the effects of the Japanese-Chinese war through some cancelled orders and through inability to obtain cargo space. But, we have seen, this has been counteracted by the appearance of British buyers of unbleached sulphite and also by the increased purchasing by American converting mills.

Bleached sulphite pulp for rayon has not as yet been affected, being a product more essential to Japan. Should bleached sulphite exports be curtailed or eliminated, the period of hardship would, it is believed, be temporary, resulting in a world-wide shift of buyer and seller relationships. The fundamental assumption is that the world desires its present supply of rayon and staple fiber textiles and if Japan should cease to be an important producer her percentage of the total world production would be acquired by other countries.

Inland Empire Adds Four Directors

At their annual meeting on August 18th the stockholders of the Inland Empire Paper Company added the following men to the board of directors: C. S. Mowry, Leslie A. Stilson, W. W. Witherspoon and L. M. Smith, general manager, all of Spokane.

A. W. Witherspoon was reelected president. Leslie A. Stilson was elected vice-president, W. W. Witherspoon, secretary, and L. M. Smith reelected as general manager.

Mr. Smith, general manager, said:

"Owing to operating the Millwood plant now at 100 per cent capacity, an improved distribution of paper products with consumption throughout the country expanding, the outlook is encouraging.

"Operating revenues thus far in 1937 are showing a substantial increase over the like period a year ago. Sixty-five per cent of capacity is still in news print production, which is being supplied largely to local markets. Thirty-five per cent is devoted to higher grades of paper products, which command better prices and are being received favorably by jobbing customers. These are profit items and add to the satisfactory outlook for the future. New equipment, installed in connection with plant improvement, is operating satisfactorily.

"Volume of business the first eight months of 1936 resulted in operations at about 50 per cent of capacity, but the last four months picked up so that we averaged 75 per cent for last year. All of 1937 operations have been at capacity, and we see no reason to change. The Millwood plant is employing 300 persons."

Port Mellon Resumes Production

After a two-month's shut-down, Port Mellon Operating Company, manufacturing kraft pulp for the Leadbetter mills and for Japan, has resumed production.

The mill, which started to turn over for the first time last winter, although much of the plant had been assembled by the old Vancouver Kraft Mills as long ago as 1928, was forced to suspend operations because of the shipping shortage. It was found impossible to obtain space for contracted shipments to Japan.

"We have found rates to Japan somewhat easier during the past few weeks and Japanese buyers have guaranteed us ships," said Pat Burns, in charge of sales at the Vancouver office. "We don't expect to suffer any further loss of time and production this year because of transportation or any other kind of difficulty."

J. C. Lehl, formerly assistant to the manager of the California-Oregon Pulp & Paper Company, another Leadbetter enterprise, is now resident manager at Port Mellon, which is located on Howe Sound, about 30 miles north of Vancouver. Thurston Iverson is superintendent of the pulp plant, master mechanic is Mark Watson and chief engineer, Bob Swanson.

"We are operating the only compact combination pulp and lumber producing unit in British Columbia, and we expect that will be an important advantage,"

said Burns. "To keep the pulp mill fully supplied with our own wood, we must produce 70,000 feet of hemlock in the mill daily. When the market for hemlock lumber is satisfactory, that is a profitable operation, because we can produce up to 170,000 feet daily. However, when the market for hemlock lumber is slack, as now, we prefer to purchase most of our hemlock in cords by contract or in the open market. Then we can concentrate on Douglas fir in the sawmill, on account of the readier demand for that species. The ideal situation would be a strong enough demand for hemlock lumber so as to make it possible for us to use the side-cut as a major factor in the pulp mill's raw material."

Ordinarily the pulp mill uses 70 to 80 per cent hemlock in its kraft operations and up to 10 per cent Douglas fir. The company now has two 10-foot rotary mixing tanks in operation and recently hooked up another digester, so that three are now in operation, as compared with two before the shutdown. A fourth digester is installed, but not yet operated. The digesters are all of the rotary type, manufactured in Germany. The mill has two drying machines and a third may be in operation shortly.

For preparing its pulpwood for the mill, the hemlock comes to the mill in cordwood four-foot lengths. Eight open-head hand barkers prepare the wood for the chipping plant and two hog machines.

Johns-Manville Signs Coast Labor Agreement

Settlement of wage and union negotiations was concluded August 24th between the management of the Johns-Manville plant at Pittsburg, California and the International Brotherhood of Paper Makers.

The final agreement provides for a 60 cent minimum hourly wage scale with the average increases amounting to approximately 14 per cent. Previously a minimum wage of 53 cent per hour was paid.

The principal part of the two months discussion dealt with the open shop, union members asking a union shop, and officials of the company declining to force any employee into the union against his wishes. However, it was announced that organization of the Pittsburg plant is close to 100 per cent.

The company pledged no discrimination against any employee because he is a union man, and agreed to recognize the union as the bargaining agent for its members, declaring any employee free to become a member.

Both employees and the company officials stated at the signing of the agreement that they were pleased at the manner in which a friendly settlement had been achieved.

Kline Transferred To Fernandina

Edward T. Kline, of the Seattle office of the Rainier Pulp & Paper Company, was transferred early in September to Fernandina, Florida to assist in supervising the construction of the Fernandina Pulp & Paper Company's 185 tons per day bleached sulphite pulp mill which is expected to begin production August 1st, 1938. Before coming to Seattle Mr. Kline was stationed at the mill of the Olympic Forest Products Company in Port Angeles, Washington.

Frank Cook Dies In Tacoma

Frank Cook, master mechanic for the St. Regis Kraft Company of Tacoma, passed away the morning of September 9th after an illness which had sent him to the hospital on August 23rd.

Mr. Cook first started work at the mill when it was under construction in 1928 and remained after operations began. When St. Regis decided to reopen the mill, Mr. Cook was called back to become master mechanic. He had a host of friends among the men at the mill and equipment and supply men.

Japan Reduces Tariff on Pulp

Japan has designated pulp and newsprint as among the products to be given preferred import treatment and reductions have been made in the tariffs applying to them.

The Japanese tariff has been entirely removed from Canadian newsprint as from August 11, the only other commodity being treated in the same fashion being iron, for which there is also a pressing demand in Japan.

A few days ago the Japanese consul-general in Canada announced that, because of uncertainty in shipping and the exchange situation, the commodities to be imported by Japan would be divided into categories. The products regarded as essential would be given first place in the granting of import credits. In addition, there would be a secondary class for articles not regarded as quite so important. And there would be a third class for non-essentials. The consul-general said it had been decided to include newsprint in the list of essentials, along with lumber and metals and scrap iron.

Tariff was also relaxed on pulp, which was one of nine commodities other than iron and newsprint to be given preferred treatment. On these nine commodities the surtax of 35 per cent on imports to Japan will be eliminated October 1. Pulp coming in this classification is described as pulp for the manufacture of artificial silk, but it is presumed that it will apply

also to other forms of pulp. Printing paper and packing paper are also to have the tariff surcharge removed October 1.

Canada's exports of newsprint to Japan during the fiscal year ending March 31, 1936, the last for which figures are available, had a value of \$2,307,885. Japan imported pulp for rayon manufacture from Canada to the value of \$1,098,000 in the same year.

Newsprint has been an important item in British Columbia's trade with Japan for several years, Powell River Company and Pacific Mills, Ltd., subsidiary of Crown Zellerbach Corporation, being the chief exporters.

Powell River Company recently put into operation a Kamy machine to facilitate production of wet pulp for export, chiefly to Japan. B. C. Pulp & Paper Company at Port Alice and Woodfibre have regarded Japan as one of its most important customers. Japan has been buying a considerable quantity of sulphite pulp from the British Columbia Pulp & Paper Company, bleaching it and otherwise improving it across the Pacific.

One of the factors that dictated the British Columbia company's present far-reaching expansion program was to provide facilities for carrying out the processes in British Columbia that in the past have been done in the Orient.

Prince Rupert Project Not Ready to Build

Frank L. Buckley, managing director of the company proposing to establish a 250-ton sulphite pulp mill at Prince Rupert, told Pacific Pulp & Paper Industry that concessions to be granted his company in the form of tax rebates and special water rates would have to be formally authorized by the British Columbia legislature, but that he believed it would be possible to commence construction some time this fall.

The company sought special water rates and exemption from taxation over a term of years, and these concessions formed the basis of a by-law which has been approved in part by the Prince Rupert commissioner, W. J. Alder. The city of Prince Rupert, being in receivership, is under the administration of a commission appointed by the government and any action taken by the commission with respect to tax rebates and exemptions, etc., must be approved by the legislature, which will not be in session until October. However, Mr. Buckley said he had received a guarantee that the concessions sought will be granted.

These technical points mean delay, of course, and it begins to look as though actual construction of the mill will be held up considerably longer than had originally been expected. Mr. Buckley said that most of the engineering details of the project had been completed, and that engineers had recently returned from the site after making a further survey of the scheme, especially with respect to water and hydro-electric supply.

"It's unfortunate that we have had to face so many delays," said Mr. Buckley on the eve of starting on a three week's trip to New York. "I am confident that all the serious obstacles have been overcome, and that we will be in a position to start building before the end of the year."

Varley Joins Superintendents' Association

John H. Varley of Oakland, roofing and felt mill superintendent for more than 20 years, has become a member of the American Pulp & Paper Mill Superintendents' Association. Mr. Varley is roofing and felt mill superintendent for Paraffine Companies at Emeryville, California.

Anacortes Mill Resumes Operations

The Puget Sound Pulp & Timber Company, Anacortes, Washington, resumed work on August 15th after a shutdown of two weeks for repairs. Two rock towers were relined as well as a digester, and a sidewall constructed on the large open air conveyor.

Hamilton to Study In Appleton

De Vane Hamilton, assistant to technical director Gerald F. Alcorn of the Everett mill, Pulp Division, Weyerhaeuser Timber Company, left September 11th with his family to spend a year in study at the Institute of Paper Chemistry in Appleton, Wisconsin.

Foren Leaves Columbia River

William E. Foren resigned August 20th as paper mill superintendent for the Columbia River Paper Mills of Vancouver, Washington. He has since been vacationing and has not been reached for a statement as to future plans.

No successor has yet been selected, according to Nils Teren, general manager. In the meantime M. E. Norwood has been supervising paper mill operations.

Weyerhaeuser Research Installs Plastic Press

The Weyerhaeuser Timber Company has installed in the research laboratory at the Longview pulp mill a 125-ton hydraulic press, with 13-in. ram and 14-in. platens. The new press is being used in plastics work, experiments in which are being carried on.

The research laboratory has developed a process using sawdust, producing a plastic which will now be made in form large enough for thorough testing.

England Buying Pacific Coast Pulp

Surplus sulphite pulp from the West Linn mill of the Crown Willamette Paper Company is being shipped to England, opening up a new market for Columbia River export pulp that rivals Japan as a buyer.

England stepped into the market about three months ago, taking about 500 tons per shipment. Up to this time, Japan had been the only market for export pulp from the Portland district.

During the first half of 1937 the Portland district exported 8750 tons of pulp, all but 1020 tons going to Japan.

Late in August the Norwegian motorship "Villanger" loaded 4600 tons of pulp in one shipment for England, bringing the volume of this market nearly up to that of Japan. Up to the end of August, total pulp exports from the Portland district aggregated 14,150 tons, valued at about \$630,000.

TAPPI Dinner Meeting Schedule Opens October 5th

First Dinner Meeting At Everett

The first of the Fall and Winter dinner meeting programs scheduled by the Pacific Section of TAPPI will be held at the Hotel Monte Cristo in Everett, Washington, the evening of October 5th.

The program for this meeting, outlined by N. W. Coster, vice-chairman and George H. McGregor, chairman of the Pacific Section of TAPPI, includes a talk, the subject and speaker to be announced later, and a showing of the Albany Felt Company's new moving picture, "The Art of Felt Making." Harry H. Stilwell, Pacific Coast representative of the Albany Felt Company will be in charge of the picture's showing.

For those who can arrange to arrive in Everett by noon of October 5th, Mr. Coster has arranged a luncheon at the Hotel Monte Cristo and an afternoon program of visits to the mills of the Everett Pulp & Paper Company, the Soundview Pulp Company and the unbleached sulphite mill of the Weyerhaeuser Timber Company.

The committee appointed by Mr. Cos-

ter to take charge of the mill visits consists of: Gerald F. Alcorn, technical director of the Pulp Division, Weyerhaeuser Timber Company at Everett; S. A. Salmonson, assistant superintendent of the Soundview Pulp Company; and John Shedd, chief chemist of the Everett Pulp & Paper Company.

The dinner will be held in the ballroom of the Hotel Monte Cristo at 6 o'clock.

All men interested are invited to attend this first dinner meeting.

Other dinner meetings scheduled by the Pacific Section of TAPPI include: Port Angeles, November 9th; Portland, January 11th; Camas, Washington, February 8th; Vancouver, B. C., March 10th; Seattle, April 5th; and Tacoma, May 3rd.

Reservations for the Everett dinner meeting should be made with N. W. Coster, Soundview Pulp Company, Everett, Washington or with J. V. B. Cox, Paper Makers Chemical Division, Hercules Powder Company, Portland, Oregon.

Rust Engineering Awarded Fernandina Contract

The Rust Engineering Company of Pittsburgh was recently awarded a contract for construction of the 185 tons per day bleached sulphite pulp mill for the Fernandina Pulp & Paper Company at Fernandina, Florida. The mill is being constructed by the Rainier Pulp & Paper Company of Shelton, Washington and affiliated mills.

The Crossett Lumber Company's 200 tons per day kraft pulp and paper mill at Crossett, Arkansas was recently completed by the Rust Engineering Company who handled the general construction contract. This firm is now engaged in constructing the 200 tons per day kraft pulp and paper mill for the Chesapeake-Camp Corporation at Franklin, Virginia.

Crown Zellerbach Earnings Continue Upward Trend

Establishing a new high record in quarterly earnings the Crown Zellerbach Corporation and its subsidiaries reported for the three month of its fiscal year, ending July 31st, a net profit of \$2,507,711. This represents an increase of 94.3 per cent over the \$1,290,304 net profit for the same quarter of 1936.

For the first quarter of its fiscal year Crown Zellerbach reported net sales of \$14,172,051 as compared with \$11,657,426 in the same 1936 quarter, an increase of \$2,514,625 or 21.6 per cent.

Contributing to the increased earnings were a number of factors not the least

of which was excellent manufacturing and sales management. Extensive capital investments in programs involving the thorough modernizing of its productive facilities during the past several years are now proving the soundness of the judgment of manufacturing executives by contributing materially to the return to fair profits on the corporation's huge investment. Increased sales at higher prices are also fundamental factors participating in the rising earnings.

It should be noted that the quarter's net profit does not make allowance for the federal surtax on undistributed profits which cannot be determined until the end of the fiscal year.

Boxboard Production for First Seven Months

The U. S. Department of Commerce reports production of boxboard by United States mills for the first seven months of 1937 as 2,702,234 tons. This compares with a production of 2,000,715 tons in the first seven months of 1936, an increase of 701,519 tons or 35 per cent for the production in 1937 to the end of July.

Board mill consumption of waste paper is reported by the Department of Commerce for the first seven months of this year as 1,833,837 tons as compared with 1,671,265 tons in the comparable 1936 period. The 1937 consumption represents an increase of 162,265 tons or 9.7 per cent.

Columbia River Offers Bonds for Preferred Stock

A plan to substitute an issue of 5 per cent income bonds for the outstanding preferred stock of the Columbia River Paper Mills was recently announced by Fred W. Leadbetter, president.

Under this plan, the company offers to issue 5% income bonds, dated July 1, 1937, and maturing December 31, 1967, in exchange for the surrender of its preferred stock on the basis of \$140 face value of bonds for each \$100 par value of outstanding preferred stock, interest to be paid annually if earned, and if not earned in whole or in part in any one year, such portion of the interest to accumulate and be payable before any dividends are paid on any class of stock.

All Bonds Callable

It is further provided that the bonds shall be callable on any interest paying date at face value, plus any accumulated and unpaid interest and, in the event of liquidation, to be paid at face value plus any accumulated and unpaid interest before distribution of any assets to any class of stockholders.

The bonds are to be in denominations only of \$100, \$500 and \$1000 as may be necessary and convenient in accomplishing the exchange for outstanding preferred stock of the company or for warrants in consummation of the plan. Warrants representing the right to receive 1-10 of a bond will be issued. When the holder of warrants shall have a sufficient number to entitle him to a bond, he may deliver his warrants to the company for cancellation on or prior to July 31, 1941 and receive the bond. Warrants will be negotiable, shall not bear interest, and shall be revoid after July 31, 1941. Bond received in exchange for warrants shall carry full interest rights from July 1, 1937.

The exchange will be consummated by Title & Trust Co., authorized agent of the company for that purpose.

In his letter to preferred stockholders, Mr. Leadbetter said:

"During the depression it unfortunately became necessary not only to suspend the payment of dividends on the preferred stock of the company, but to arrange with the holders of the company's bonds for a four-year extension of bond maturities. This extension has expired and bonds are again maturing at the rate of \$40,000 a year.

Earnings Are Better

"Notwithstanding the fact that net earnings of the company thus far this year are encouraging, the time when accumulated dividends on the preferred stock can be paid and dividends thereafter be paid regularly is indefinite, even though net earnings of the company should increase very considerably beyond those indicated and beyond reasonable expectation.

"For these reasons, the management has sought a solution that would allow the preferred stockholders an early and adequate return on their investment. The plan proposed should enable preferred stockholders who cooperate with the company by accepting the offer, to receive prompt and regular interest."

Production Ratio Starts Up Again

After declining from the April high through a low in July the monthly production ratio report of the American Paper & Pulp Association exhibited a slight rise in August, going up 1 per cent above July.

Starting the year at 90.3 per cent the ratio went to 92.1 per cent for April, declined to 90.6 per cent for May, 87.6 per cent for June and down to 82.4 per cent for July. August was 83.4 per cent.

Bob Heuer Back From Long Trip

H. Robert Heuer, operating superintendent of the Weyerhaeuser Timber Company's Longview pulp mill, returned August 7th after a trip of nearly seven weeks through the East visiting other plants.

He found all of the mills busy, with much improvement work going on in practically all of them, such as new digesters, bleach plants, recovery plants, etc.

Mr. Heuer first visited the Great Lakes

Paper Co. at Port William and the Provincial Mills at Port Arthur, then going on to the Restigouche Pulp Co. at Atholville, N. B., and the International Paper Co.'s mill at Dahousie, N. B.

He attended the superintendents' convention at Springfield, Massachusetts, and from there went to Bangor, Maine, and visited the plant of the Eastern Manufacturing Company. Other Maine mills seen included the Maine-Seaboard Paper Company at Bucksport, the Penobscot Chemical Fibre Company at Great Works, and Hollingsworth and Whitney at Waterville. He also stopped at the Brown Company, Berlin, N. H., the Howard Smith Paper Mills at Cornwall, Ont., and the St. Regis Paper Company plant at Deferiet, N. Y.

On the return trip he spent some time enroute visiting with relatives in Wisconsin, and in that vicinity inspected such mills as that of the Neenah Paper Company, Consolidated Water Power and Paper Company at Appleton and Wisconsin Rapids, the Kimberly-Clark Company at Kimberly, the Marathon Paper Mills at Rothschild, the Nekoosa-Edwards Paper Company at Port Edwards and Nekoosa, and the Sterling Paper Company at Eau Claire.

Dr. Browning Returns To Shelton

Dr. Eugene Browning, returned to Shelton the middle of August, after an absence of six months during which time he was connected with E. I. Du Pont de Nemours Company in Chicago.

It was understood that Dr. Browning, as in the past, would be connected with the Rainier Pulp & Paper Company.

Horace W. Hooker Passed Away August 30th

Horace Willard Hooker, vice-president, treasurer and director of the Hooker Electrochemical Company for the past 25 years, died at Canandaigua, New York on August 30th. He was a brother of Elon H. Hooker, president and Harry M. Hooker, vice-president in charge of sales of the Hooker Electrochemical Company.

Japanese Association To Control Pulp Imports

A Rayon Pulp Import Control Association is being formed in Japan by the Japan Rayon Pulp Producers' Association, the Staple Fiber Producers' Association and the Rayon Pulp Importers' Association. Latest reports said that only official government approval delayed the starting of operations by the new association. Principal offices will be in Osaka with a branch in Tokyo.

Pabco Exhibit Planned For Exposition

Announcement was recently made by W. H. Lowe, president of the Paraffine Companies, that plans are now under way for an exhibit of Pabco products at the Golden Gate International Exposition, to be held in San Francisco in 1939. The company's leading products, floor covering, paint, roofing and building materials will be featured.

Rainier Rights Listed On San Francisco Exchange

Rights of stockholders to purchase new stock in the Rainier Pulp & Paper Company were listed on the San Francisco Stock Exchange August 25th. Each stockholder was entitled to purchase new stock at \$50 a share in the ratio of one new share for each five shares held. The rights expired September 8th.

St. Helens Pays Extra Dividend

An extra dividend of 20 cents was paid on September 1st to stock of record August 25th by the St. Helens Pulp & Paper Company. This brings the total dividends this year up to 60 cents, the amount as paid in 1934 and 1935. Dividends amounting to \$1.40 were paid during 1936, 60 cents being in the nature of a Christmas present. The company's bank loan resultant from borrowing to extinguish the last of its bonds is understood to have been paid off completely. Original borrowing was \$375,000, which had been reduced to \$175,000 at the end of 1936.



A CENTURY OF SERVICE WITH PARAFFINE is represented by these three men, R. S. Shainwald (seated), Chairman of the Board and former President of The Paraffine Companies; R. H. Shainwald, son of R. S., senior vice-president and treasurer; and on the right, W. H. Lowe, President of the company. R. S. Shainwald has been with Paraffine 45 years, his son 23 years, and Mr. Lowe 32 years. » » » The occasion for the congratulations was R. S. Shainwald's seventy-fifth birthday, June 28th, when this picture was taken by the San Francisco Chronicle » » » It almost coincided with the 53rd annual sales conference of the Paraffine firm.

The occasion also marked the launching of a \$500,000 building program at Paraffine's Emeryville, California, plant, involving the expansion of linoleum production and the increase in warehousing facilities, the latter providing steadier employment for all manufacturing departments including the roofing paper division.

Woodfibre Improvements Ready in November

Alterations being made at the Woodfibre plant of British Columbia Pulp & Paper Company will be completed some time in November, according to Lawrence Killam, president, who says that special construction and renovation at the Port Alice mill has been practically completed.

Object of most of the mechanical changes made at the two mills is to enable the company to concentrate on manufacture of bleached sulphite pulp suitable for the manufacture of rayon.

Mr. Killam stated that the purpose of the company was to make production as flexible as possible. While he expects that the company will probably concentrate on bleached sulphite, provision is made for the making of other pulp as well, according to fluctuations in the market. It is felt that this will result in greater stability in the company's sales.

Earnings of B. C. Pulp & Paper Company improved substantially last year, according to figures recently made available. Operating profits were \$531,467 compared with \$215,404 in 1935. The company was able to report the first net

profit after all charges except preference dividends since 1930. It is expected that further betterment in financial position will be disclosed for this year's operations.

Earnings have increased this year due to the higher price received for pulp. The advance was at least \$10 a ton, and this is said to be more than enough to offset increase in wages, freight and supplies. Net profits are certain to be higher this year as a result of this condition, although the management will not hazard an opinion as to whether preferred dividends will be more than covered. No payments have been made on the preferred since August, 1931. One year's full dividend on the 7 per cent preferred would require \$38,934. Last year the company reported net profit, after \$238,000 for depreciation, at \$15,214. The indication for full preference dividends being earned this year appears to be reasonable, although no account is taken of the expenditure of several hundred thousand dollars this year on improvements, which will no doubt entail higher interest charges.

Weyerhaeuser Longview Notes

Digesters in the Longview bleached sulphite pulp mill of the Weyerhaeuser Timber Company are being relined, now that No. 7 is in service, making possible the shutdown of other units.

The company has replaced the surface condenser on the Minton Vacuum dryer with a barometric condenser, and it is believed that this is the first machine so equipped. Operation of the new condenser has been very satisfactory.

W. Norman Kelly, manager of the Longview mill, Pulp Division, returned to the plant recently after spending a vacation with his family cruising in Hoods Canal in his sloop. He shipped the boat from Longview to Everett for the trip, and it is stored there until sailing season starts next spring.

R. S. Hatch, research director for the company, was scheduled to leave the middle of September on a vacation trip to San Francisco. Here he was to visit his son, who is with the Shell Oil Company, and who is leaving shortly to spend about a year in the East for that company.

Ed Wood, operating superintendent, returned just before Labor Day from his vacation, spent at Elk Lake, Oregon.

D. K. McBain, resident engineer, is building a new home on 24th Avenue, and will have it finished later this year.

Robert B. Wolf, pulp division manager, who has been traveling extensively in Europe on business, is expected to return to Longview about October 15.

Stockholders Elect Two New Directors

Stockholders of the Pacific Coast Paper Mills at their annual meeting held September 1st in Bellingham, Washington, elected two new stockholders, Quinn Fisher and Victor A. Hughes. They fill the vacancies caused by the deaths of Harry Lord, New Westminster, B. C. and George H. Bacon, Bellingham.

The following directors were re-elected: J. J. Herb, Paul J. Herb, Elmer Herb, New Westminster; J. D. Watson, Appleton, Wisconsin; William McCush.

J. J. Herb was elected president, Paul J. Herb, vice-president, William McCush, treasurer and Victor A. Hughes, secretary.

Coster Vacations In South

N. W. "Bill" Coster, technical director of the Soundview Pulp Company at Everett, left August 29th with Mrs. Coster for a two weeks vacation in California.

Hawley Wins Sweepstakes Prize

Hawley Pulp & Paper Company was awarded the sweepstakes prize in the opening day parade of the third annual Oregon City Territorial Days celebration. Their float depicted the covered wagon with trail worn pioneers.

Rainier Sells Large Tonnage to Japan

When the refinancing plans of the Rainier Pulp & Paper Company, the Olympic Forest Products Company and the Grays Harbor Pulp & Paper Company were filed with the Securities and Exchange Commission the war in China was not considered a factor. Later the three companies considered it necessary to file amendments to the original statements.

These amendments stated in part that, "Performance by the company (Rainier, Grays Harbor or Olympic Forest) of its foreign sales commitments may be interfered with by wars, embargoes, foreign trade or exchange restrictions, or other causes not within the company's control. According to press reports, Japan is now engaged in a military campaign in China."

It was also stated that if sales of dissolving pulps to foreign countries were cut off it might be necessary to utilize a part of its plant capacity now used for the production of such pulps in the production of ordinary grades of paper pulp and that this could be done without material changes in machinery or equipment.

The amendments stated that during the calendar year 1937 the Rainier Pulp & Paper Company was committed to sell 233,000 tons of dissolving pulps, as follows: Japan, 124,000 tons; United States, 80,500 tons; France, 15,000 tons; Belgium, 6,500 tons; England, 5,500 tons, and Argentina, 1,500 tons.

Sales to Japan represent 53.22 per cent of the total sales. In the company's 1935 fiscal year, it was revealed, 60.69 per cent of its total sales were to the Mitsubishi Shoji Kaisha, Ltd., representing sales in Japan.

Domestic sales of dissolving pulps during the 1937 calendar year represent 34.5 per cent of total sales.

Crown Zellerbach Pays Common Dividend

The directors of the Crown Zellerbach Corporation on August 12th declared a dividend of 25 cents per share on the corporation's common stock, payable October 1st. This dividend, the first on the common for several years, was described as an interim payment and was not to be construed as establishing a regular dividend rate.

All officers were reelected at the annual stockholders' meeting which preceded the dividend action.

Loomis Elected to Union Office

Maxwell Loomis of Port Townsend, for many years connected with the pulp and paper industry, was recently elected secretary-treasurer of the Pacific Coast Pulp and Paper Mill Employees' Association, bargaining agency for the two pulp and paper mill unions. J. S. Killen, newly appointed international representative for the International Brotherhood of Pulp, Sulphite and Paper Mill Workers and International Brotherhood of Paper Makers, previously held this office.

Canadian Pulp Exports Up 20.3% in Seven Months

U. S. Took 86.4% of
First Half Year Exports

The exports of all classes of wood pulp from Canada in the first seven months of 1937 showed an increase of 20.3 per cent over the same 1936 period. The total exportation of wood pulp amounted to 506,549 short tons, valued at \$23,236,550 as compared with 420,868 short tons, valued at \$17,291,080 in the first seven months of 1936.

The gain in value was 34.3 per cent or \$5,945,470.

At the present time more complete figures are available for the first six months of the current year. Exports of bleached sulphite pulp from Canada in the first six months amounted to 186,868 short tons, an increase of 13.9 per cent over the comparable 1936 period.

A remarkable increase occurred in the exports of unbleached sulphite pulp which rose from 56,213 short tons in the first six months of 1936 to 84,281 short tons in the first half of this year. This was a gain of 28,068 short tons or 49.9 per cent.

Canadian exports of sulphate pulp amounted to 65,971 short tons in the

first half of 1937, a gain of 20.3 per cent over 1936's first half year. Groundwood pulp exports rose to 77,897 short tons, a gain of 32.8 per cent.

Of the Canadian wood pulp exports for the first six months of 1937, the United States took 86.4 per cent of the total of all grades. This included 84.1 per cent of the bleached sulphite, 70.2 per cent of the unbleached sulphite, and practically all of the sulphate and groundwood.

A larger portion of the sulphite pulp exported from Canada is going to Japan, which increased its purchases of unbleached sulphite pulp from 15,413 short tons, in the first half of 1936, to 22,924 short tons in the first half of this year; and of bleached sulphite pulp from 1,827 short tons to 9,420 short tons.

In the first seven months of 1937 Canada averaged a monthly export tonnage of 60,124 short tons of all grades as compared with a monthly average of 72,364 short tons for the first seven months of 1937, an increase in the monthly average of 12,240 short tons.

British Columbia Log Market Unbalanced

In the recently issued Report of the Forest Branch, Department of Lands, Province of British Columbia for 1936, appeared this significant statement:

"The most disturbing factor is the unbalanced nature of our timber-cut in so far as species are concerned. More than 55 per cent of the log scale was Douglas fir, which species comprises approximately 25 per cent of our visible supply. To bring about a more balanced cutting there should be no delay in developing markets for cedar and hemlock."

The report states that two new State Forests were established during 1936. The Nimpkish Forest, on the northern part of Vancouver Island, covers 1,386 square miles and contains 10,891,500,000 feet board measure. The Toba Forest, on the mainland coast between Powell River and Bute Inlet, contains 1,194 square miles forested with 2,199,800,000 feet board measure.

The survey of the watershed of the Upper Arrow Lake, in southeastern British Columbia, is of interest to the pulp industry for it shows that Western hemlock predominates with an accessible total of 388,930,000 feet board measure. Accessible Engelmann spruce totals 119,910,000 feet board measure and silver fir accounts for 34,190,000 feet board measure. These figures will be surprising to some for the general opinion is that Western hemlock is found only on the

lands in large percentages of the total stands of timber.

Forest and topographic maps have been prepared of the Upper Arrow Lake watershed. The survey of the Arrow Lakes timber is continuing states the Report of the Forest Branch with a party working during 1937 on the lower lake

The Forest Branch recommends that the Coast Forest, from Knight Inlet to Wakeman Sound, be reserved as a permanent State Forest, taking the name of its chief inlet, Kingcome Forest. This forest is in the hemlock-cedar region and should be regarded as a permanent source of supply for Coast pulp mills first and lumber or shingles secondarily. It has an accessible sustained annual yield capacity of 13,200,000 feet board measure of timber of quality acceptable in existing markets, or 14,000,000 feet board measure from the whole forest if all the stands should become accessible. The average annual cut, states the report, has been 22,000,000 feet board measure, but restriction of the cut is not recommended at present because it is reasonable to expect that smaller timber will be merchantable in future years. On a rotation of sixty years, Kingcome Forest could sustain an annual yield of 24,000,000 feet board measure from accessible stands.

The Forest Branch report also calls attention to the fact that, "A complete report and account of the forest resources of the Province was completed and is available in a separate publication, illus-

trated with maps, diagrams and photographs." A revision of the maps and estimates for the Vancouver District including Vancouver Island, has been started.

History studies are being carried on by the foresters of the Forest Branch to determine the best methods for bringing about effective reforestation after logging. Reforestation is also being carried on at an increasing yearly rate.

The Report of the Forest Branch also shows that the value of the products of the pulp and paper industry in British Columbia in 1936 had not fully recovered from the effects of the depression years. The value in 1936 is shown at \$14,950,000 which represents considerable recovery from the low of \$10,852,000 in 1933, but is still below the high of 1930 which was \$16,520,000.

Paper production in British Columbia attained new highs in tonnage in 1936. News print amounted to 276,710 tons, an increase of 14,587 tons over 1935 production and 71,660 tons over the low of 1932 when news print production was but 205,050 tons. In 1930 production was 224,928 tons.

The production of other grades of paper in British Columbia in 1936 reached the total of 41,443 tons, more than double the 1930 production of 20,446 tons and 8,156 tons greater than the 1935 total.

During 1936 a total of 303,400 tons of wood pulp was turned into paper in British Columbia and 89,000 tons of wood pulp were shipped out of the Province during the year.

Japanese Pulp Imports Up 34% in First Half

Imports of wood pulp into Japan in the six months ending June 30th, 1937 showed an increase of 34 per cent over the same period of 1936, according to a report from Commercial Attache Frank S. Williams in Tokyo.

The United States supplied 37.8 per cent of Japan's total pulp imports for the first half of 1937. Japanese pulp imports for June amounted to 27,500 short tons for use in the rayon industry and 16,000 short tons for use in paper manufacture, a decline of 10 per cent from the total in May, but an increase of 71 per cent over the total for June 1936.

The Japan Rayon Producer's Association and the Staple Fiber Producers' Association have petitioned the government to increase the total amount of import licenses for pulp for this year from 300,000 to 350,000 tons in view of an estimated demand of 400,000 tons for 1938. It is calculated that 250,000 tons of pulp will be required for rayon production and 150,000 tons for manufacturing staple fiber while the domestic supply is reckoned at only 50,000 tons. The petition contains among other items a request that the Ministry of Finance eliminate some of the delay in the issue of import licenses for pulp imports, pulp importers now feeling the effect of the restrictions. (Vice Consul Frank A. Schuler, Jr., Kobe.)

Boxboard Products Producing Laminated Board

Boxboard Products, Inc., San Francisco, recently launched the operation of its newly-developed paper laminating machine on the Pacific Coast.

The basic operation of this machine is to laminate—or paste—papers and boards together at a high speed to make board products.

The boxboard machine is laminating two liners onto a thin filler of board and is turning out two products. One of the products has been named "Plynated" board and paper and the other is called "Glasstite." This is a water-proof board, lined on the machine with a special glassine liner.

R. J. Gruenberg, president of Boxboard Products, has been experimenting with the laminating machine for more than two years and had this unit built under his own direction, incorporating ideas gathered from various eastern units.

Mr. Gruenberg's son, M. F. Gruenberg, is in charge of the laminating department at Boxboard Products. M. F. Gruenberg is a graduate of Stanford University and of the Harvard School of Business Administration, where he studied courses stressing paper operations.

Recently M. F. Gruenberg toured the east inspecting laminating operations and he returned with an expert crew to man the Boxboard unit.

The Boxboard machine has been in practical operation since the middle of this summer, using mostly coast papers and boards. It turns out not only boards, but also printers' supplies, greaseproof label stock and special duplex combinations. The machine has a 34-inch trim.

"Plynated" board opens the field to new and unusual merchandising, according to Mr. Gruenberg. With a great variety of paper colors available for lamination, an almost endless combination of colors can be obtained. Combinations can be developed to provide an exclusive color trademark for a particular user. Boxes lined with decorated papers are more attractive than printed cartons. Again it is possible to take the user's distinctive wrapping paper and use it to line his boxes, resulting in an effective advertising tie-in.



M. F. GRUENBERG
In charge of laminating

Mr. Gruenberg also points out that the surface of "Plynated" boards is naturally adaptable to fine printing as laminated board with a liner of good paper gives a printing surface far superior to boxboard.

The "Glasstite" product is a board lined with either an inner or outer lining, or both, of glassine and is especially suitable for packaging food products. The greaseproof quality prevents candy from sticking to the board and the oil of greasy foods from soaking into the board. Consequently, it is said, the board will not become rancid nor will its appearance be soiled. The moisture resistance quality of "Glasstite" board is valuable for those products which should be kept free of excess moisture. Likewise "Glasstite" will prevent packaged foods from drying out.

Many dried fruits are packed in the so-called brick forms, on a diecut piece of cardboard and cellophane wrapped, such as raisins, prunes, apricots, etc.

Glassine lined board is specially adaptable for this purpose, retaining the original brilliancy of the printing done thereon.

Adhesives add to the quality of laminated boards. Specialized adhesives can give greater insect resistance, an important factor in exporting.

Neil L. Brinker, well-known paper mill representative of Los Angeles, will handle Boxboard's laminated products in the southern California area. Mr. Brinker is at 943 North Main Street in Los Angeles.

Arthur Loesch works out of San Francisco selling Boxboard's paper boxes in the Pacific Northwest. Boxboard Products had not made plans in August to cover the Northwest with its laminated boards, but it is likely Mr. Loesch will handle the product there later.

Association Recommends State Federation Affiliation

Following a two-day session of the Pacific Coast Pulp and Paper Mill Employees Association's executive board in Portland the latter part of August, a recommendation to affiliate with their state federation of labor was ordered sent to all locals. The association embraces 42 locals of the International Brotherhood of Paper Makers and the International Brotherhood of Pulp Sulphite and Paper Mill Workers in Washington, Oregon and California. It is understood that only a few locals are affiliated with their state federations.

Maxwell Loomis of Port Townsend was chosen by the board as secretary-treasurer succeeding J. S. Killen, resigned to become international representative for British Columbia. O. B. McDonald, St. Helens, Oregon was chosen vice-president to succeed Loomis, and Hugh Thompson, Shelton, Washington was named to take Killen's place on the executive board.

Paraffine Companies Issue Policy Pamphlet

The Paraffine Companies, Inc. have published for distribution among employees and the public, a pamphlet setting forth its personnel policies covering a broad field of employee relationship.

Some of the important policies set forth in this pamphlet include: wages; fair standards of performance and production which can be reasonably and consistently attained; hours, average for day and week; working conditions, personal conveniences, proper lighting, ventilation, high standard of orderliness and cleanliness; safety measures; labor policies; promotions; hiring; protection against risks; stabilizing employment; vacations and group insurance; employee relationships and employee organizations.

A published statement of this nature is considered by the officials of the company as very valuable in avoiding misunderstandings. Officials in industry in general are coming to realize the importance of such public statements in maintaining a harmonious relationship with employees.

Pulp Float Wins First Prize

The Pulp, Sulphite and Paper Mill Workers' were awarded the first prize for their float in the State Labor Day parade held in Longview and Kelso.



TAPPI To Hold Big Meeting in Savannah

Many Coast Men
To Attend

The annual Fall meeting of the Technical Association of the Pulp & Paper Industry, to be held at the Hotel De Soto in Savannah, Georgia, October 18-21st, promises to break all records for attendance.

Advance reservations are far ahead of those made for previous Fall meetings. The reason for this interest is a good program to be staged in the center of recent pulp and paper mill development in the South. A large number of Pacific Coast mill operators and executives plan to attend and have already made reservations.

A "TAPPI Special" will be run from New York by the Seaboard Air Line Railway, leaving that city at 1:30 p. m. on October 17th and will arrive in Savannah the following day in time for the start of the convention.

The program will feature the utilization of the Southern pines as the basis of the wood pulp industry in the South. All three mornings will be devoted to the presentation of papers and the discussions. The afternoons will be used for visits to pulp and paper mills and to woods operations.

On Thursday, October 21st, the Hercules Powder Company will be hosts to those attending the meeting and will provide a special train to take the guests to Brunswick, Georgia where they will visit the extensive Hercules naval stores operations.

The program of papers has been outlined in advance as follows:

Monday, October 18th

Symposium on Wood Supply, C. W. Boyce, Chairman

1. Pulpwood Supply in the South, by I. F. Eldridge, Southern Experimental Sta.
2. Relationship between Pine for Pulpwood, Saw Timber and Naval Stores, A. E. Wackerman, Southern Pine Association.
3. Cost of Wood at Mill, by W. L. Hall, Hot Springs, Ark., and Albert Ernest, Union Bag & Paper Company, Savannah, Ga.
4. Forestry Operations and Land Ownership, Karl Swenning, Mead Corp., Kingsport, Tenn.
5. Wood Supply of the World, by John Traquair, Mead Corp., Chillicothe, Ohio.

Luncheon Speaker—Guy Woolford, President, Georgia Forestry Association.

Tuesday, October 19th

Symposium on Pulping Southern Pine, O. W. A. Rodowski, Chairman

1. Bleaching of Kraft Pulp, by John Campbell and L. O. Rolleston, International Paper Company, Glens Falls, N. Y.
2. The Herreshoff Furnace, by K. A. Forrest, Crosssett Paper Company, Crosssett, Ark.

3. Acid Pulping of Young Southern Pines, II. Sulphite Pulp for Viscose, News Print and other Papers, Pulp and Paper Laboratory of the Industrial Committee of Savannah.
4. Chemical Balance for a Continuous Recausticizing System, by O. W. A. Rodowski, Union Bag & Paper Company, and C. L. Knowles of The Dorr Company, New York, N. Y.
5. Grinding Southern Pine for News Print, Pulp and Paper Laboratory of the Industrial Committee of Savannah.

Wednesday, October 20th

Symposium on Fiber Structure, Charles Carpenter, Chairman

1. A Further Report of the Changes Taking Place in the Structure of Fibers as a Result of the Operations of Pulping and Stock Preparation, Institute of Paper Chemistry, Appleton, Wis.
2. Chemical Composition of Wood, G. J. Ritter and W. O. Van Beckum, Forest Products Laboratory, Madison, Wis.
3. The Visible Structure of Natural Fibers, Thomas Kerr, Bureau of Plant Industry, Dept. of Agriculture, North Carolina State College.
4. Fastness of Paper to Light, by H. Ainsworth Harrison, Cooke & Nuttall Ltd., Horwich, Lancs., England.
5. Nature of the Resin Acids by Torsten Hasselstrom, G. & A. Laboratories, Savannah, Ga.
6. Southern Clays for Paper Making, by Poole Maynard, Atlanta, Ga. (by title)

October 21st, Post Convention Trip to Brunswick, Georgia plant of Hercules Powder Co.

Reservations should be made immediately with Mr. D. G. Moon, general chairman of the Fall Convention, Post Office Box 703, Savannah, Georgia.

There will be an equipment and supply exhibit during the convention in the lobby of the De Soto Hotel.

Pulp Companies Confirm Merger Plans

The frequently discussed possibility of a merger of the Rainier Pulp & Paper Company, the Olympic Forest Products Company and the Grays Harbor Pulp & Paper Company became official the latter part of August with the filing of amendments to the registration statements of the three companies before the Securities & Exchange Commission in connection with the refinancing programs.

The amendments disclosed that plans are now under consideration looking toward a consolidation or merger of the

three corporations. The amendments also explain that it is expected that, upon completion of the present financing by each company, a plan of consolidation will be submitted to stockholders.

Each of the three companies is undergoing a capital reorganization involving the sale of additional securities. Each manufactures principally bleached sulphite pulps by processes developed by Rainier. Practically all the pulps so produced are sold by and in the name of Rainier, with the other two companies participating in the returns in accordance with contracts with Rainier. A single management directs the three companies. A consolidation, therefore, would involve no important change in operations, policies or management personnel.

Terms of the proposed consolidation must await completion of financing now pending.

If and when the merger is effected the combined mills would have a publicly stated capacity of 232,000 tons annually of rayon grade bleached sulphite pulps. In the last fiscal year the actual output of the three companies was 135,716 tons.

These companies are now building the new mill at Fernandina, Florida which will increase the combined annual output to approximately 300,000 tons.

In addition two companies, Olympic Forest Products Company and the Grays Harbor Pulp & Paper Company produced in their last fiscal year 65,460 tons of paper making sulphite pulps.

The three companies had a combined net profit in the first quarter of their fiscal year (Fiscal year ends April 30th) of \$1,315,262 as compared with a combined net profit of \$635,972 in the same quarter of 1936.

Following the consolidation, if and when it takes place, the new company will have no funded debt. Capitalization will consist of preferred and common stock. However, plans for financing the new Fernandina mill have not been announced as yet and this may involve some funded debt.

British Staple Fiber Production Rising

The production of staple fiber in Great Britain for the first six months of this year 16,283,000 pounds as compared with 14,050,000 in the first half of 1936. Exports of staple fiber totaled 3,197,554 pounds in the first six months of 1937 as compared with 1,238,489 pounds in the first half of 1936.

The United States imported 1,442,131 pounds of staple fiber from Great Britain in the first half of 1937 as compared with no imports of this commodity at all in the first six months of 1936.

British production of rayon yarns showed a slight increase in the first half compared with the previous year with production of 59,608,000 pounds this year against 58,150,000 pounds in the first half of 1936.

Pulpwood Imports Rise

Imports of pulpwood for the first half of this year showed a rise in volume of 35 per cent and in value of 45 per cent as compared with imports in the first half of 1936.

Six months pulpwood imports totaled 538,341 cords valued at \$3,996,231.

Puget Sound Mill To Start April 1st

The Puget Sound Pulp & Timber Company's new unbleached sulphite pulp mill at Bellingham, Washington, for which preliminary work is already under way, is to be completed and ready to start production on April 1st, 1938, according to Ossian Anderson, president of the company. The new unit will produce 125 tons of unbleached sulphite pulp per day.

The general construction contract was awarded September 14th to the Howard S. Wright & Company, contractors of Seattle and includes eighteen separate buildings. Construction is to be of concrete, brick and steel. The machine building will be 80 by 400 feet.

Work already under way embraces the dredging of the waterway in front of the new dock. The Puget Sound Bridge & Dredging Company of Seattle has this contract and has at the present time

dredged the channel to a depth of 34 feet at mean low tide. The same firm is excavating for a log storage pond on tideland owned by the Puget Sound Pulp & Timber company between their sawmill and the municipal small boat harbor. Sixty thousand cubic yards will be excavated and used to fill in the property upon which the new unit is to be constructed.

The Industrial Engineers of Tacoma have been awarded the contract for construction of a new dock 800 feet in length and 80 feet in width. This work was begun on August 30th.

Driving of the four thousand piles for the new pulp mill was expected to start September 15th.

Cavin, Marshall & Barr are the engineers in charge of constructing the new mill for the Puget Sound Pulp & Timber Company.

Paraffine Profits Show Increase

The report of the operations of The Paraffine Companies Incorporated, for the fiscal year ending June 30th, 1937 shows a consolidated net profit of \$2,608,395, after depreciation, amortization, income taxes and surtax on undistributed profits. This is equal to \$5.28 a share on the 476,062 common shares after allowing for preferred dividends.

The above net profit compares with a net of \$2,173,675 in the preceding fiscal year, equal to \$4.36 per common share. There was no preferred stock outstanding during the fiscal year ending June 30th, 1936.

W. H. Lowe, president of Paraffine stated that the increased profit resulted principally from increased sales volume, improved manufacturing facilities and processes, development of new products and operating economies. Mr. Lowe said that the increased profit did not come from increasing selling prices of the company's products.

Included in the year's profit was \$1,562,527 representing Paraffine's proportionate share of the net profit of Fibreboard Products, Incorporated, more than 50 per cent owned. This share would have been \$100,000 less had Fibreboard used the same depreciation rates as in the preceding year. Depreciation rates were lowered to conform with bases and rates used for income tax purposes. In the preceding year, Paraffine's share of Fibreboard's profit was \$1,238,839 against \$872,508 in the year ended June 30th, 1935.

Sales in the past fiscal year totaled \$12,873,469 against \$10,736,703 in the preceding year, a gain of about 20 per cent.

Current Position Better

At the end of the fiscal year, Paraffine had total current assets of \$7,762,297, including \$372,925 cash, and current liabilities totaled \$1,197,790. As of June 30, 1936, current assets totaled \$6,391,618, including \$510,327 cash, and current liabilities totaled \$1,167,210.

Working capital as of June 30, last, approximated \$6,564,000, against \$5,224,000 on June 30, 1936. The company sold 23,804 shares of preferred stock at the beginning of the fiscal year, utilizing funds received therefrom to pay debts, for plant construction and for working capital. Inventories on hand as of June 30, last, were valued at \$4,331,131, against \$3,481,061 a year previously. The increase was due principally to increased sales volume.

Cites Increased Taxes

Mr. Lowe directs attention to the company's increased costs and expenses, and particularly to the tax problem that is becoming more acute yearly. Ascertainable taxes paid in the fiscal year, including the company's proportionate share of taxes payable by companies more than 50% owned, totaled \$979,995, against \$658,138 in the preceding year and \$468,170 in the year ended June 30, 1937. Applied to the company's common stock, taxes last year were the equivalent to \$2.05 a share, against \$1.38 in the preceding year and 98 cent a share in the year ended June 30, 1935.

These taxes include only those taxes levied in respect of operations and definitely ascertainable," he said. "It does not by any means represent the total tax bill. In other words, on the basis of results for the fiscal year ended June 30, 1937, nearly 30% of the company's earnings are required for the payment of tax bills."

Paraffine adopted a uniform policy for hourly paid employees of a basic 40-hour week, last year, with time and one-half for overtime. Hourly rates of pay were generally increased.

Adopting a policy of revealing in greater detail information on the scope and diversity of operations, the company's latest pamphlet report lists products manufactured, together with their uses. Products are classified as building materials, floor coverings, paints, board and paper products, insulating materials and glass containers. Included are products manufactured by companies more than 50% owned by Paraffine.

During the year the company and its wholly-owned domestic subsidiaries spent \$898,754 in additions and improvements to plant facilities. The largest items were an extension of the linoleum unit, construction of a plant to manufacture a new type of roofing, and an extension of warehouse facilities to take care of increased storage requirements and more economical handling of materials.

Machinery Modernized

Mr. Lowe says a substantial amount was spent in the modernization of existing machinery and equipment, to yield maximum production. "The importance of this modernization and improvement in maintaining and improving earnings over a period of years can best be appreciated when it is pointed out that the existing selling prices of practically all our representative products are substantially lower than those of 1927, 1928, and 1929, while our hourly wage rates show substantial increases in the same period."

He said the future program, as now contemplated, is mainly along the same lines, although required expenditures should be greatly reduced.

Provision for depreciation of buildings and machinery and equipment during the last fiscal year amounted to \$311,839.

Rainier Awards Five Year Pins

The Rainier Pulp & Paper Company recently awarded five year service pins to thirty-nine employees at an informal dinner and dancing party in Shelton, Washington, which was attended by nearly 500 persons.

The pins were presented by David B. Davies, general manager of the company. In 1935 122 five year pins were presented. Last year the pins were awarded, but the banquet omitted.

Following are those who received five year pins: B. L. Boyle, Robert E. Brown, Herbert Brumbaugh, George Cardinal, Arnold L. Cheney, Ernest Cole.

Harry Cole, Ben Freschle, Lester Huntington, Merritt Johnson, Harland Jordan, William Kempton.

Maurice E. Kinsey, John Kollen, Madelyn Kurth (New York Office), William Lunsford, L. Mauzey, Robert McAloon, W. F. McCann, Nels Mikkethun, Albert Nordquist, A. L. Nyman, William Opalka, Tom Ortun.

Courtney Pauley, Robert Pollock, T. Robertson, James Rousch, Clyde Simmons, Rybern Simmons.

Thomas Slusser, Martin Smith, Walter Spinharney, H. L. Thompson, Georgia Valentine, John Walton.

Hagbert Wolden, Elliott H. Woodruff, and Jack Young.

June Pulp Imports Break Record

Imports of chemical wood pulp broke all previous monthly import records with 240,326 short tons of all grades, valued at \$10,136,997. This compares with the previous record month, June 1936, when 209,965 short tons, valued at \$7,892,774 were imported into this country. This is an increase in tonnage for June of 14.4 per cent or 30,361 short tons.

Increase in the value of chemical wood pulp imports in June of this year over June of 1936 was \$2,244,223 or 28.4 per cent greater.

The record importations in June were due primarily to exceptionally large imports of unbleached sulphite and unbleached kraft pulps. Imports of unbleached sulphite pulps amounted to 99,973 short tons, valued at \$3,757,809; and of unbleached kraft pulp of 76,601 short tons, valued at \$2,760,734. In June imports of bleached sulphite pulp totaled 53,326 short tons, valued at \$2,

949,520. Imports of bleached kraft, in the same month, amounted to 9,460 short tons of a value of \$616,736. Soda pulp imports were 949 short tons valued at \$47,635.

Mechanical pulp imports in June totaled 19,713 short tons of a value of \$401,100.

June imports of chemical pulp brought the total for the first six months of this year up to 1,074,229 short tons compared with 930,428 short tons of chemical pulp imported in the first six months of 1936.

Imports of groundwood pulp in the first half of this year were 110,084 short tons, against 93,317 tons a year ago.

Combining the two we have imports of all grades of wood pulp in the first half of 1937 of 1,184,313 tons or 160,568 short tons larger than the imports of all grades in the first half of 1936 of 1,023,745 short tons.

Lebanon Appreciates Its Paper Mill

The city of Lebanon, Oregon appreciates the contribution made to the community by the pulp and paper mill of the Crown Willamette Paper Company, Division of Crown Zellerbach Corporation. Most communities take their industrial good fortune for granted, not stopping to realize how essential industry is to the welfare of the town's citizens and also, in the case of the pulp and paper industry, to the surrounding territory.

The following editorial recently appeared in the Lebanon, Oregon Express:

"In another column on this page is a news story telling of contracts let by the Crown Willamette Paper mill here for timber to be turned into pulp for paper manufacture. Better than \$150,000 is now in the process of being distributed between some forty owners or loggers of timber in the hills immediately back of Lebanon.

"In reading this news item we wonder how many will stop and think just what this sum of money actually means to the better livelihood of every individual in Lebanon as it is released, as much of it will be, directly into avenues of living and trade of this community. How many who read the total sum of these timber purchases will stop and analyze its distribution and give more than passing thought to just what that distribution means. The average reader, we know from experienced contact, will think only of the sum as a price to the timberman and let it go at that. He knows but will forget consideration of the fact that the timberman pays much of that money to woodcutters, loggers, peelers and various other forms of labor in the forests. He or his contracting hauler will pay truck drivers and assistants. Trucks must have tires, gasoline, oil and repairs in order to keep running. Sometimes new trucks must be purchased.

"All this is potential and a large percentage actual business for Lebanon stores, who in turn give employment to other Lebanon people, which in turn helps the living of all of us as it makes up and determines not only our present but our future welfare as the cycle can continue.

"We cite this as a current example from today's news. The same distribution occurs naturally with the expenditures for supplies and labor by other industries operating within our community. There have been, and undoubtedly with present improved conditions will be other like news items concerning advancement, improvement and progress of our local industries. Give this sort of news more than casual consideration.

"Stop and think a little more what it means to your own welfare. All of us, none too recently, have had experience of what happens to us when this sort of progress slows down or perhaps stops. Don't take these things that figure so much in the better advancement of your community too much for granted. Don't consider your part in contributing to their continuance too negligible.

"Support and back up your local industries and business enterprises in every way possible. The faintest whisper, as long as it is rightly spoken, can travel a long ways. The right kind of recognition, appreciation and support of any community behind the industries and investments operating therein can only work harmoniously and helpfully to the benefit of everyone concerned."

Carson Married

John F. Carson, Jr., chemist with the Olympic Forest Products Company in Port Angeles, was married August 7th to Miss Barbara Burns of Spokane.

West Tacoma Mill Completes Big Well

The West Tacoma paper mill of the Everett Pulp & Paper Company completed early in September a well supplying approximately 7,000,000 gallons of pure water per day. Drilled to a depth of 950 feet by the N. C. Janssen Drilling Company of Seattle, the new well is 34 inches in diameter. The well has a natural flow of 2,000,000 gallons per day but will supply 7,000,000 gallons when pumped.

Marketing Study of Pulp & Paper Industry Issued

The importance of the pulp and paper industry as a market for industrial equipment and supplies is shown in a new study made public today by the Marketing Research Division, Bureau of Foreign and Domestic Commerce, Department of Commerce.

The normal value of the United States production of pulp and paper is approximately 700 million dollars a year. The industry's purchases of supplies and equipment amount to several hundred million dollars annually. It is, therefore, one of the greatest single industrial markets in the country.

The paper industry alone is made up of 730 mills in 35 different states with a total annual production capacity of 17,072,200 tons of paper.

Massachusetts, New York, Ohio, and Michigan are the great manufacturing centers for book and writing paper. Maine, New York and Washington manufacture 69 per cent of the national output of news print; while Virginia, Alabama, Louisiana, and Arkansas produce 68 per cent of the bag and wrapping paper, according to the report.

Pulp which is used in the production of cellulose, wall board, rayon, explosives, and more than a hundred products other than paper is produced in 27 states of which Washington, Maine, New Hampshire, New York, Louisiana and Wisconsin are the leaders, the study says.

The study gives production capacity and major machinery installed for the making of each major type of paper and pulp, on a county basis.

The report which is the fourth of the Basic Industrial Market Series, prior studies having covered the textile, iron and steel, and gas and electric utilities of the country, is intended as an aid to all manufacturers and other marketing executives in planning the sales of their products to the pulp and paper industry, through establishing the location and density of this great industrial goods market and segregating its most important divisions by counties.

This study contains 77 pages of text and statistical data and is illustrated with 12 maps which graphically show the location and density of each major group of the two great branches of the industry.

This publication is titled "Basic Industrial Markets in the United States—The Pulp and Paper Industry" and further identified as Market Research Series 14.4. Copies may be had at ten cents each upon application to the Bureau of Foreign and Domestic Commerce, Washington, D. C., or any of the District Offices of the Bureau located in principal cities.

Washington Leads In Pulpwood Consumption

The State of Washington lead all states in 1936 in the consumption of pulpwood, according to the report of the U. S. Bureau of Census, Census of Forest Products.

Washington consumed in 1936 a total of 1,509,340 cords of pulpwood valued at \$8,229,307 or an average of \$5.45 per cord. The second largest consumer of pulpwood was Maine with 1,176,636 cords valued at \$11,731,101 or an average cost of \$9.97 per cord.

The third largest consumer of pulpwood was Wisconsin with 1,034,601 cords valued at \$10,443,751 or an average of \$10.09 per cord.

Fourth was Louisiana with 723,062 cords valued at \$3,246,076 or an average of \$4.48 per cord. New York was fifth with 574,937 cords consumed valued at \$7,018,261 or \$12.20 per cord. Virginia came sixth with a consumption of 529,535 cords valued at \$3,295,221 or an average of \$6.22 per cord.

Oregon was seventh with a wood consumption of 423,839 cords valued at \$2,754,038 or an average of \$6.50 per cord.

Although Washington exceeded Maine in the total consumption of pulpwood the latter exceeded Washington in the number of tons of wood pulp produced from that wood. In 1936 Maine produced 933,510 tons of wood pulp valued at \$23,680,643 while Washington produced 895,797 tons valued at \$27,549,520.

Washington's production was 37,713 tons less than Maine's but the value was \$3,868,877 greater. This is largely accounted for by the fact that Maine produces far larger quantities of groundwood pulp, thereby obtaining a higher yield in tonnage from the wood consumed, but the resultant product has a much lower sale price than Washington's sulphite pulps.

For the entire United States the pulpwood consumption for 1936 was 8,715,916 cords valued at \$67,161,447. In 1935 some 7,628,274 cords were used, valued at \$58,243,552. The 1936 increase was 1,087,642 cords and the value was \$8,917,795 greater than in 1935.

Wood pulp produced in the United States in 1936, all grades, totaled 5,695,219 tons valued at \$165,272,519 at the mill. In 1935 the tonnage was 4,925,669 and the value \$149,981,900 at the mill.

The increase in 1936 over 1935 wood pulp production in the United States was 769,550 tons, or 15.6 per cent and the increase in value f. o. b. mill was \$15,290,619, or 10 per cent.

Sulphite pulp continued in 1936 to hold the larger share of the total with 1,821,842 tons as compared with a total sulphate pulp production of 1,794,734 tons and a groundwood pulp production of 1,475,620 tons.

In 1935 sulphite pulp totaled 1,579,567 tons, 242,275 tons less than the 1936 production. Sulphate pulp in 1935 totaled 1,467,749 tons or 326,985 tons less than the 1936 production. Groundwood produced in 1935 amounted to 1,355,819 tons, 119,801 tons less than in 1936.

Bleached sulphite production in 1936 was 1,279,939 tons as compared with 944,620 in 1935, an increase of 183,319 tons or 19 per cent.

Unbleached sulphite pulp production in 1936 amounted to 693,903 tons as

compared with 634,947 tons in 1935, an increase of 58,956 tons or 9.28 per cent.

Superpurified bleached sulphite pulp in 1936 accounted for 108,600 tons as against 63,066 tons in 1935, an increase of 45,534 tons or 72 per cent.

Rayon and special chemical bleached sulphite pulps in 1936 totaled 198,994 tons as compared with 126,470 tons in 1935, an increase of 72,524 tons or 57.3 per cent.

Bleached sulphate pulp jumped to 155,581 tons in 1936 from 127,461 tons in 1935, an increase of 28,120 tons or 22 per cent.

Logs Rafts Move From Harbor to Sound

Several months ago crib log rafts, known as Davis rafts, started a movement of logs from the Willapa Harbor, Grays Harbor area North and East through the Straits of Juan de Fuca to the Washington Pulp & Paper Division of Crown Zellerbach Corporation's news print mill at Port Angeles.

The Grays Harbor Pulp & Paper Company assembled the logs and supervised the raft making for shipment to Port Angeles.

Chromium Corporation Granted Patent

The Chromium Corporation of America was granted July 6th an United States patent on their open-back type screen plate. A large number of these screen plates are in daily use in Pacific Coast mills. Patent application was made August 22, 1935.

A 24 page booklet entitled "Chromium Plating" was recently issued by the Chromium Corporation of America, featuring the numerous applications of its Crodon chromium plating for industrial purposes. All important uses in industry are pictured and described including the several widely employed applications in the pulp and paper industry, screen plates, embossing rolls, drying cylinders, printing plates and rolls, calendar, coating, waxing and color rolls.

The booklet tells what chromium plating is, its corrosion resistance, smoothness, heat conductivity and wear resistance.

Charles H. Belvin of Portland, Oregon is the Pacific Coast representative of the Chromium Corporation of America, whose executive offices are located in New York and plants in Waterbury, Connecticut, Chicago, Illinois and Cleveland, Ohio.

Merrick Scale Offers 30th Anniversary Catalog

"Weight at a Glance" is the title of the Merrick Scale Manufacturing Company of Passaic, New Jersey's new 30th anniversary catalog.

Various applications of the Merrick Weightometer and other Merrick weighing-as-you-convey devices are pictured and described. Weightometers are used extensively in the Pacific Coast pulp industry to automatically weigh chips and hog fuel on the belt conveyor.

Merrick is represented in the Pacific Northwest by Irving R. Gard & Company, 908 Lowman Building, Seattle.

Paraffine Establishes Public Relations Office

The Paraffine Companies, Incorporated, recently established a department of public relations with Henry W. Von Morpurgo formerly of the company's advertising department, in charge. The announcement was made by W. H. Lowe, president of The Paraffine Companies of San Francisco.

California Container's Prize Winning Package

The California Container Corporation emphasizes the merchandising value of design in shipping containers and as a result was awarded first prize in the Shipping Container Group of the All-America Package Competition last Spring. This was the first time the silver award has been given to a Pacific Coast produced package.

Says the California Container Corporation:

"New packages mean new packaging ideas—new ideas result from trained thinking along packaging lines. The success of these new ideas is governed by the soundness back of them. Whatever that degree of success, it is readily calculated by the volume of business created. No veil shrouds the earning power of a successfully thought out package.

"Nor does any veil shroud the achievements of the packaging industry. New designs of proven earning power quickly come into public use. Recently twelve thousand packages and displays participated in a free-for-all competition for national recognition—a competition, not of materials and labor, but of packaging thinking to create packaging earning power. Out of the West came a winner of the coveted Silver Award of the All-America Package Competition, the Italian-Swiss Colony wine package, planned and developed by California Container Corporation.

"Designed primarily as a Christmas gift package, but without Christmas trappings or decorations, it created a demand that was altogether beyond expectations.

"This package combines eye appeal with practicability—a splendid and eye filling display with real protection in shipping.

"The Italian-Swiss Colony could have bought a much cheaper package and yet, though this container was expensive, it proved a splendid investment, bringing wider distribution, bigger volume and better prices.

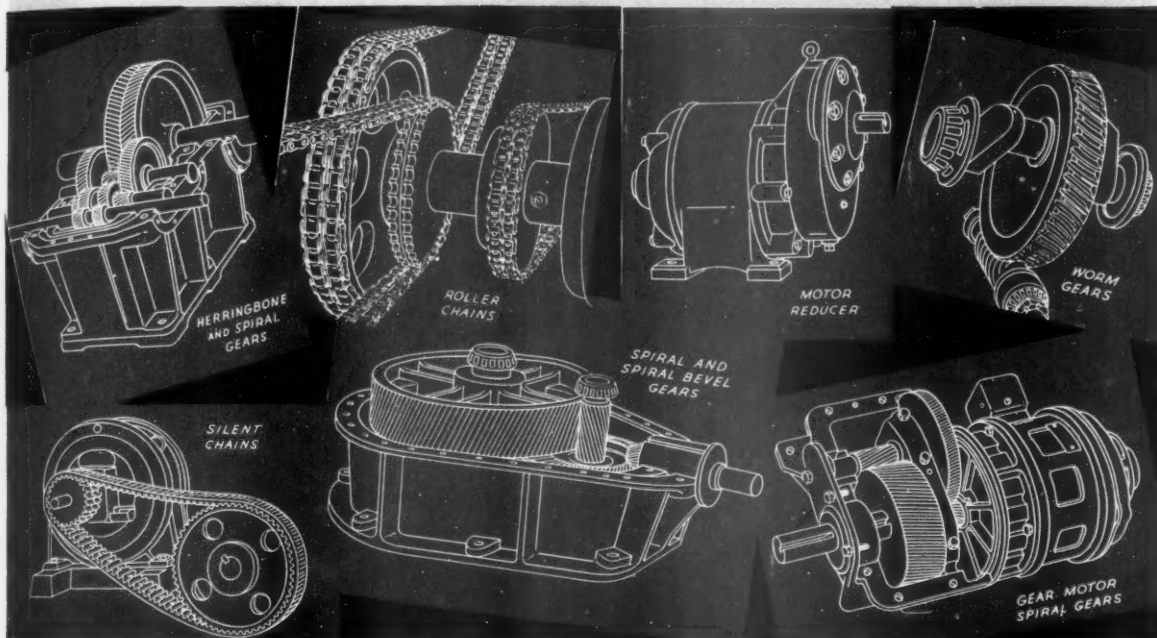
"Wise buyers take full advantage of expert help and counsel in this direction, realizing that men who give all their time and thought to this phase of merchandising can be of invaluable help in giving a package its fullest sales appeal."

Harold Zellerbach Honored by University

Harold Zellerbach, president of the Zellerbach Paper Company and a vice-president and member of the executive committee of the Crown Zellerbach Corporation, was recently named as chairman of the University of Pennsylvania's Bicentennial Committee for the San Francisco Bay area.

The appointment was made by Dr. Thomas S. Gates, president of the University of Pennsylvania, of which Mr. Zellerbach is an alumnus.

SHELL EXPOSES HIDDEN PROFIT LEAKS IN *Speed Changers*



OIL-DRY SPROCKET TEETH wear down! A heavy chain jumps off . . . raising merry blazes with your production schedule! *Shell men have run smack into that condition. They know how to correct it.*

Badly worn gear teeth profiles! Noise! Vibration! Then . . . stripped gears! *Shell men have seen this happen before. They know the causes. Can prevent it happening again.*

Shell engineers have come by so many of the right answers through years of work in hundreds of mills! Testing. Checking. Proving. Getting right to the very sources of speed changing problems. Plugging those sources with safer, more efficient Shell lubricants.

Thus Shell, with all of its world-wide resources to draw upon, has rooted out profit leaks in gears and chains. And just as thoroughly has Shell overcome lubrication bugs in the other three basic sawmill operations—*power development, power distribution, power offtake.*

Telephone your nearest Shell office for facts and figures on improved Shell Mill Lubricants. Or write: Shell Industrial Lubricants Division, Shell Building, San Francisco, California.



Shell's "Invisible Element" is a combination of Shell's unmatched world-wide resources, experience and research. It is the determination to make lubrication more efficient, more economical for industry. Shown above is the sawmill of the Kesterson Lumber Corporation, Klamath Falls, Oregon . . . one of hundreds of Western sawmills depending upon this "Invisible Element" to check profit leaks

SHELL MILL LUBRICANTS

ENGINEERED FOR THE 4 BASIC MILL OPERATIONS:



POWER
DEVELOPMENT



SPEED
CHANGING



POWER
DISTRIBUTION



POWER
OFFTAKE

Selling Asphalt In Multi-Wall Paper Bags

by G. A. BAUMAN*

ONE OF the latest developments in the paper industry is the successful production and use of multi-wall paper bags for packaging roofing asphalt. According to asphalt manufacturers it fills a need that has existed for a number of years especially in manner of merchandising.

The Jaite Company at Wilmington, with experimental assistance from the laboratories of the Richfield Oil Company, has perfected the inner coated sheet of a four-wall paper bag to the point that it resists the penetration of asphalt at high temperatures. By preventing any penetration, it is possible to remove the asphalt without its sticking to the paper.

Due credit must be given to the Casmite Corporation, subsidiary of the O. C. Field Oil Company, the Pioneer-Flintkote Company, and others for adopting it as a standard package and introducing it to the trade. Without their assistance the paper bag would not be where it is today in the asphalt market.

Ever since asphalt was put on the market, it has been sold in barrels. Wooden barrels were used first, and later steel drums were added. They served the purpose of holding the asphalt without consideration for those who used it. A barrel which holds from 450 to 500 pounds is very cumbersome to handle compared with the new 100-pound multi-wall paper package. Barrels and drums must first be coated with white-wash and then piled to dry before using. After making the first run of asphalt, it must stand 4 to 5 days to cool, for, on account of the thick mass, cooling is slow. During this time shrinkage occurs, and the barrels must be refilled or retopped.

When using the paper bag only twenty-four hours are required for cooling, and the package is ready for merchandising after one pouring. One ton of asphalt in paper bags takes up less than half the storage space of one ton in barrels. The item of time and storage space is a factor of great importance to the manufacturer. Asphalts having melting points of 160 degrees and up, pouring at temperatures of 250 to 350 degrees, are being successfully handled in paper bags.

Methods of Filling

There are several efficient methods of filling paper bags, two of which are described briefly as follows:

(1) The form method consists of placing the empty multi-wall paper bags in metal containers as in the photograph. The bags are filled from the water jacketed spout of a traveling crane

Asphalt in Paper Bags . . .

Satisfies the Consumer—

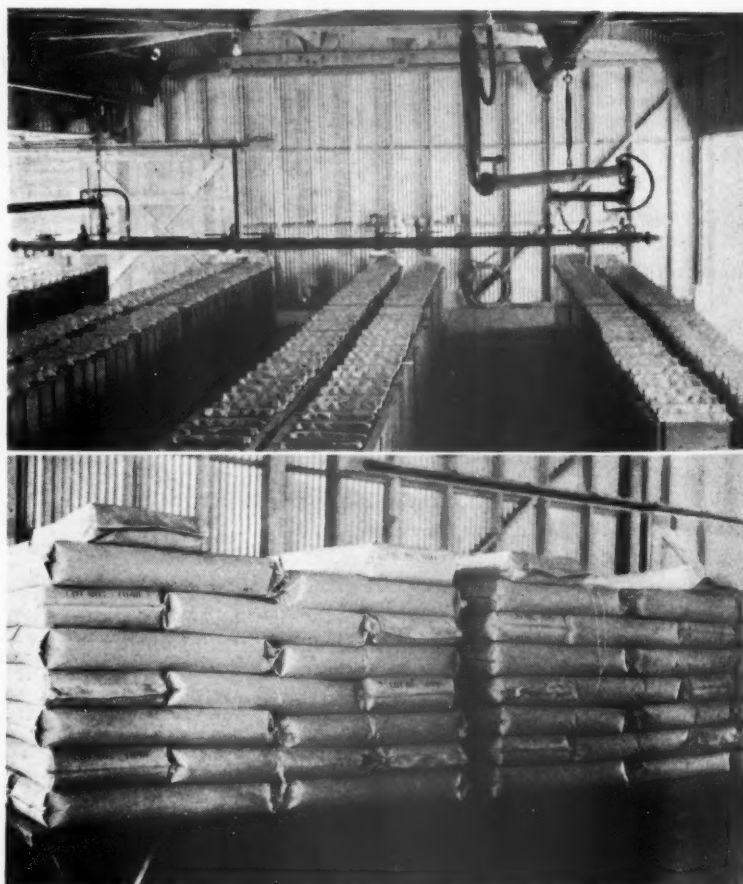
Paper bags handle easily.
Asphalt kept clean until used.
Asphalt readily removed.
Easily measured: bags hold 100 pounds.
No container to return.

Pleases the Dealer—

Convenient, branded package to sell.
No waste: assured profit on smaller sales.
Half the storage space required by barrels.
No container to return.

And the Manufacturer Is Gratified—

Saves on container cost.
Saves on freight.
Avoids trouble with customers over return of damaged containers.
Brand name may be printed on the multi-wall paper bag.



At the top, the Casmite asphalt bag filling operation as Casmalia >>>
Below, Asphalt filled bags on skids for simplified handling.

*The Jaite Company, Wilmington, California.

which reaches the forms from any position. After the bag is filled, it is closed by folding down the top and stapling. The following day the packages are removed from the side of the form and piled on skids for handling and storage. The operation is then repeated daily, using the same forms.

(2) The turn table method consists of a device which rotates four metal compartments holding bags while the men stand on a stationary platform and perform their various duties. The bag is first blown up with air to extend the sides; then it is inserted in the first compartment and passed under the filling spout with a quarter turn of the table. Next it goes to the stapling position. From there it goes to the last or discharge position where the bag is slid down onto a hand carrier and transported by roller conveyor to a location for cooling. The following day the bags are removed from the hand carriers and piled. The process is then repeated, using the same equipment.

Advantages of the Paper Bag

Multi-wall paper bags for asphalt have definitely proven their value to the manufacturer, the dealer, and the consumer. To the manufacturer, the multi-wall paper bag saves at least \$3 per ton on container cost and 5 percent per ton on freight, for there is a difference of 100 pounds in the weight or tare of the empty containers. For the first time in history the product of the manufacturer can be advertised with printing on the container and placed on the market in a clean, handy, and branded package.

To the dealer, the 100-pound paper bag is less costly to handle, it is a convenient package to sell, and he is assured of a profit on the smaller sales for the asphalt is sold by the 100-pound package and not just chunks broken from a barrel weighing about 500 pounds. In the case of barrels,

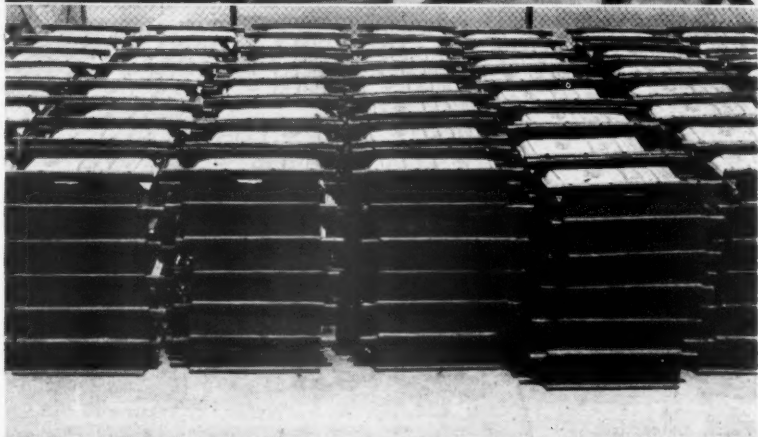
At the top is The Jaite Company's multi-wall paper bag plant with the new extension at Wilmington, California.

Second from the top is the method of filling multi-wall paper bags with asphalt employed by the Pioneer Division of the Flintkote Company, Los Angeles.

Pioneer-Flintkote bags are quickly cooled in wooden forms.

Twenty bags of asphalt represent one ton, making the sale by the dealer and the use by the consumer a simple, easily measured process.

All kraft paper used by THE JAITE COMPANY in multi-wall bags for packaging asphalt is PACIFIC COAST KRAFT made by the ST. HELENS PULP & PAPER COMPANY of St. Helens, Oregon.





Comparison between Paper Bags and Barrels in storage >>> Five barrels or twenty bags equal one ton.

they must be broken up and sold in pieces, which naturally results in waste.

To the consumer, the paper bag handles easily, the asphalt falls out readily when the bag is opened, and it is a measure or unit amount weighing 100 pounds.

The paper container is easily disposed of, while broken barrels and steel drums must be hauled away. The asphalt is kept clean until used. No dirt, splinters from barrels, or other foreign matter can contaminate the product. Asphalt in multi-wall paper bags is economical, and has merchandising qualities the former containers do not possess.

Schmidt Lithograph Starts Construction

The red brick Schmidt Lithograph Co. building at Second and Bryant—a San Francisco landmark—is likely to be replaced in the course of time by a number of six-story building units, the first of which is under construction now, says Carl Schmidt, vice-president and general manager of the company.

Schmidt is now building a \$250,000 six-story building directly behind the old headquarters building and four more units are contemplated—if business keeps up. Eventually, it is expected, the old red brick building and its tower will be torn down and replaced by the new structures.

Schmidt Lithograph makes labels of all kinds, has a corrugated fire case manufacturing plant and a coated paper plant. The paper coating department is in a newer building and will not be affected by the construction program.

The old Schmidt building was built in 1907 following the San Francisco fire of 1906.

Improvements At Camas and West Linn

Monitors and ventilators are being installed over the evaporators in the kraft mill of the Crown Willamette Paper Company's Camas plant, to improve working conditions for employees within the plant.

No. 11 digester, the new unit, was scheduled to go into production about Sept. 15, and the new bleach plant at about the same time.

Other improvements include the installation of a 2,400 cu. ft. air compressor in the Camas plant, to supplement capacity of the present compressor units.

Fifth and Sixth avenues in Camas are now being paved, an item of interest to all those who visit the mill, as well as to resident employees.

In the company's mill at West Linn, tile lining is being installed, together with a circulating system, in a sulphite storage tank. This tank previously was of plain concrete finish in the interior.

Lebanon Celebrates Safety Record

The Lebanon, Oregon, plant of the Crown Willamette Paper Company put on a picnic for the mill employees and their families at Waterloo Park, August 15, in recognition of the exceptional safety record made in the mill by operating four months continuously without a single lost-time accident.

When the safety campaign and final picnic were proposed, employees took great interest in it and became exceedingly safety minded. The community newspaper and business people of Lebanon took up the campaign and boosted it, assisting materially in the success of the movement.

The August 15 picnic culminated the four-month accident-free period. It was attended by about 400 people. Up to September 1, two weeks later, the plant was still maintaining its good safety experience, and to that date had had no lost-time accidents.

Japan's Pulp Production Up

Japan's production of wood pulp, both chemical and mechanical rose 7 per cent in the first quarter of this year over the similar period of 1936, the 1937 production being 189,536 short tons, about evenly divided between chemical and mechanical.

Imports of wood pulp by Japan in the first quarter of the present year mounted to 90,072 short tons, a decline of 7 per cent under the last quarter of 1936 but an increase of 1.7 per cent over the first quarter of 1936. This was due to a decline in the amount of pulp imported for paper making, which dropped from 50,250 tons for the first quarter of 1936 to 39,069 tons during the first quarter of 1937.

Imports of pulp for rayon manufacture increase in the same comparative periods from 38,272 tons in 1936 to 51,003 tons in the first quarter of 1937.

Sweden supplied about one-third of this year's imports, followed by the United States, Norway and Canada in the order named.

Plan Chinese News Print Mill

P. Cheng, general manager, and H. King, assistant general manager of the Wenchi Paper Mills, Ltd., of Shanghai, China, arrived at Vancouver, B. C. on August 24th on the first leg of a world-wide trip visiting paper mills and paper machinery manufacturers.

This company, recently organized, and backed principally by Chinese publishing interests, is planning the construction of a 50-ton news print mill at Wenchi, Wenchow, Chekiang, about 370 miles south of Shanghai. General offices of the company are at present in Shanghai at 160 Avenue Edward VII.

Messrs. Cheng and King visited the news print mill at Powell River, B. C., then went direct to Portland, going through the Crown Willamette mills at West Linn and Camas, and the Hawley mill at Oregon City. They left for Chicago Sept. 1, and will visit the Forest Products Laboratory at Madison, Wisconsin before going on to New York.

About 15 years ago Mr. King was with the Great Northern Paper Company at Millinocket, Maine, and he planned to revisit this mill while in the East. Leaving New York, they will go to England, Germany and Sweden before returning to China. They will inspect the modern paper making machinery available in each country.

China consumes about 10,000 long tons of news print per year but produces only about 1,500 tons of this within her own borders, according to Mr. Cheng. The entire production of the new mill, if and when built, will find a ready market within China. The mill has sufficient timber supply within 100 miles of Wenchi, and will produce both groundwood and sulphite pulp.

The wood to be used is "Cunninghamia," commonly known as China fir, and is similar to the hemlock of the West coast. It produces a very white bleached sulphite of good strength characteristics. In 20 years it grows to a diameter of about seven inches, at which time it is cut. The forest has been continually replanted and has been harvested in 20 year cycles. Wenchi Paper Mills, Ltd. will continue this cutting practice. They will float the logs down river from the woods to the mill, a distance of about 100 miles.

New Equipment For Ocean Falls

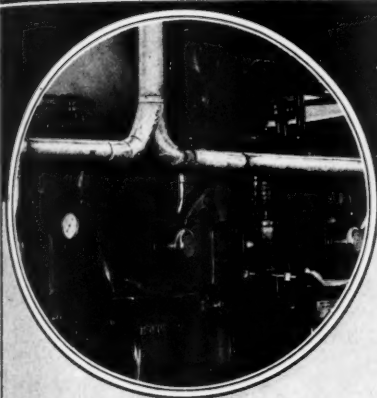
Executives of Pacific Mills, Ltd., are contemplating the rebuilding of No. 4 paper machine in the Ocean Falls, B. C., mill, a step which will include the installation of a new fourdrinier and a number of additional dryers. It is possible that the old fourdrinier from No. 4 will then be used, in conjunction with dryers, to make a new pulp drying machine for the plant.

A Tomlinson furnace will be installed in the kraft mill, probably after the first of next year, together with a 2,000-k.w. turbo-generator. These will provide both additional steam and electric power development.

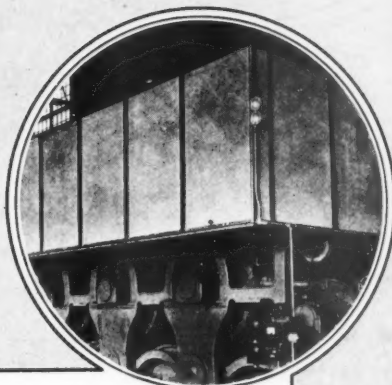
The Electric Steel Foundry Co. is now working on the three ESCO circulating systems ordered for Ocean Falls, and will probably start installation about the first of the year.

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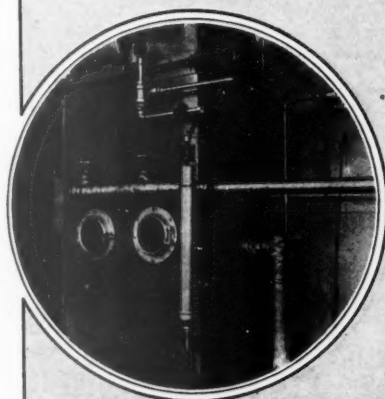


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Recovery of Sulphur From Waste Smelter Gases

A General Picture of the Development and Installation of the SO₂ Recovery Plants of the Consolidated Mining & Smelting Company of Canada, Ltd., at Trail, B. C.

By R. LEPSOE and W. S. KIRKPATRICK*

THE sulphur with which we are concerned comes in the ore from the Sullivan Mine. It is in the ore chiefly as lead, zinc and iron sulphide. By selective flotation, these three sulphides are separated into the lead concentrates, the zinc concentrates and the mill tailings. These mill tailings contain the majority of the iron and the sulphur. There are about 1,500 tons of sulphur and 2,200 tons of iron per day in the tailings and about 400 tons of sulphur left in the total concentrates.

In the recovery of lead and zinc in the pure form the first step is the roasting operation. Here most of the sulphur is driven off as SO₂ in the gases.

It has always been apparent that this sulphur should be recovered and utilized if possible. Obviously the first step was to reduce the SO₂ concentration of the strongest gas. This strong gas was from the roasting operation on the zinc concentrates. An established method at that time for the fixation of SO₂ in roaster and similar gases was the manufacture of sulphuric acid by the contact process. To be economically attractive, this process required an SO₂ concentration of about 5 per cent or better. The zinc concentrates were roasted at that time in a wedge type roaster and the gases were only about 2½ per cent SO₂. The first problem was to raise the strength of these gases to 5 per cent or better. This was done by the development of a process for burning the zinc concentrates in suspension. This increased the SO₂ concentration and now the gases analyze around 8 per cent at the outlet of the roasters.

Acid First—Then Fertilizer

About ten years ago a thirty-five ton per day sulphuric acid unit was installed to definitely establish that the zinc roaster gas was suitable for acid manufacture. Studies were made into the possible uses and markets for sulphuric acid and it was concluded that the greatest potential use and profit for this acid would be in the manufacture of fertilizers.

In 1929 the construction of a fertilizer plant to produce some 400 tons per day of phosphate and nitrogen fertilizers was started. In this plant sulphuric acid is mixed with phosphate rock to produce phosphoric acid. The phosphoric acid is combined with ammonia to produce va-

rious grades of ammonium phosphate. The sulphuric acid is also used directly with ammonia to form ammonium sulphate. The ammonia for these processes is produced by combining hydrogen, which is made from the fractional distillation of liquid air.

In 1931 this plant was put into production and the first step of our SO₂ Recovery program was completed.

Fertilizer Market Insufficient

It was realized early in the conception of this program that the markets for fertilizer and hence the use for sulphuric acid, would not expand at a rate in keeping with the progressive program for the fixation of SO₂ desired by the management. Further, the gases evolved in the roasting of lead concentrates were too low grade for acid manufacture.

Preliminary investigations all pointed in one direction and that was to the concentrating of the SO₂ in the gases and finally reducing it to make elemental sulphur. These were new and unexplored fields for any commercial scale operations so that a comprehensive research program with this end in view was begun in 1932.

Reducing SO₂ to Sulphur

The fundamental chemical and physical theoretical procedures were worked out in the laboratories, then put through the pilot plant and semi-commercial plant scale, finally culminating in the first commercial SO₂ absorption and reduction units which were put into production in the summer 1936.

The foregoing gives some idea of the history of the development leading up to the commercial production of elemental sulphur. A general description of the main points of the existing plants and processes is as follows:

Plants and Processes

The zinc roaster gas as it leaves the roasters is at a high temperature. It is cooled in waste heat boilers and then is partially cleaned by a Cottrell treater of the plate type and then further cooled in packed towers in which weak acid is circulated. The gas then passes to either the acid plants or to the SO₂ absorption system.

In making acid the gas is first cleaned of the last traces of dust in mist Cottrells and then dried. After drying, the gas is passed through a catalyst where the SO₂ is oxidized to sulphur tri-oxide. The sulphur tri-oxide is absorbed in strong acid and this, diluted with water according to strength desired, produces the make acid. Oleum is produced as required by further treating the absorber acid with sulphur tri-oxide gas.

The output capacity of the acid plants was raised when a source of 100% SO₂ gas was established by the addition of this 100% SO₂ to the feed gas. This has enabled us to operate these plants at a rate of over 500 tons (100% acid basis) per day. The maximum rate at which the plants can be operated economically under these conditions has yet to be determined.

Main Processes

The production of elemental sulphur requires three main operations. Absorption of the SO₂, liberation of the SO₂ gas from the absorbent, and the reduction of the 100% SO₂ gas.

The absorption process is somewhat similar to the method of SO₂ fixation used in the paper industry to produce the calcium bi-sulphite liquor. In our case the base is ammonia. If SO₂ is passed through aqueous ammonia the SO₂ is fixed by the ammonia ions to form ammonium sulphite (NH₄)₂SO₃. This ammonium sulphite will change

"AT PRESENT WE ARE REMOVING 50% TO 60% OF THE TOTAL SULPHUR in our gases as 450 tons of sulphuric acid and 45 tons of elemental sulphur per day. The elemental sulphur production will shortly be increased as the first unit on the low grade gas has recently commenced operation. This step appears on preliminary trials to be successful and will undoubtedly be the forerunner of other units to treat the balance of this gas."

*Presented by Mr. Kirkpatrick at the joint meeting of the Pacific Section of TAPPI and the American Pulp & Paper Mill Superintendents Association in Vancouver, B. C., June 11th, 12th, 1937.

over to ammonium bi-sulphite (NH_4HSO_3), as the passing of SO_2 continues. The velocity of absorption will decrease, of course, until all the ammonia is converted to ammonium bi-sulphite, when appreciable SO_2 absorption will stop.

This chemical reaction with proper control of temperatures, vapor tensions, concentrations, absorption velocities, etc., is applied in practice in our absorption process.

Roaster gas, after the preliminary Cottrell cleaning, as already described, passes through one, or in some cases, several absorbing towers in series. The gas flows either counter current or concurrent to a circulating solution of a mixture of ammonium sulphite and ammonium bi-sulphite. The gas concentration is reduced from about 6 per cent SO_2 to about 0.1 per cent SO_2 at the tail end, and we expect to reduce this still further. The solution increases progressively in strength to the gas inlet end of the equipment. Here it has a strength of about 500 to 600 grams per litre of SO_2 , that is 5 to 6 pounds of SO_2 per gallon of solution made. This make solution is continuously drawn off and aqueous ammonia added to replace it.

The only product from the absorption system is this concentrated solution of ammonium bi-sulphite.

Acidification Process

If ammonium bi-sulphite is mixed with sulphuric acid a reaction will take place in which the sulphate radical of the acid will replace the HSO_3 in the sulphite. This reaction will produce ammonium sulphate and 100% SO_2 will be evolved. This reaction is used as the basis for our process of driving the SO_2 from the absorbent and it has been named the acidification process.

In the acidification step the sulphite solution is passed down a packed tower and mixed with sulphuric acid. This sulphuric acid has previously been used

to dry the evolved SO_2 gas. The solution at the base of the tower is ammonium sulphate solution with a small amount of SO_2 occluded. The occluded SO_2 gas is driven off by blowing steam directly into the solution.

The ammonium sulphate produced from this system is as a nearly saturated solution. It is pumped into Oslo crystallizer where the water is evaporated off and crystalline ammonium sulphate is produced ready for the market. Besides the ammonium sulphate 100% SO_2 gas is produced which is dried as stated, and then blown to the acid plants or the SO_2 reduction plant as required.

The reduction of SO_2 by passing it through incandescent coke is an old and well known reaction, but it has not been used commercially until recently. This reaction, although slightly exothermic, cannot support itself, and oxygen has to be added to the SO_2 . Unfortunately, the reaction does not go to completion, that is, give all the gas discharged as carbon dioxide and elemental sulphur gas. Some side reactions take place producing carbon monoxide and carbon oxy sulphide. The carbon monoxide on leaving the coke bed unites with sulphur to form carbon oxy sulphide in the cooler part of the furnace. Carbon oxy sulphide and SO_2 react under proper conditions to produce carbon dioxide and elemental sulphur. We have also found small percentages of CS_2 at the furnace outlet but none after the catalyst columns.

These chemical reactions are the basis of our SO_2 reduction process.

SO_2 Reduction

The SO_2 gas plus pure oxygen obtained from our liquid air units used in producing nitrogen for the ammonia plant, is blown into the bottom of the reduction furnace. This reduction furnace is a standard type water-gas producer, slightly modified for this service. The gases leaving the top of the coke

bed are mainly carbon dioxide and elemental sulphur gas, plus carbon oxy sulphide and some carbon monoxide. To this gas is added the necessary amount of SO_2 to react with the carbon oxy sulphide before it passes into the catalyst columns, where this reaction takes place. From the catalyst columns the gases pass through waste heat boilers where the gaseous sulphur is condensed out in the form of mist and liquid. The mist sulphur is thrown out and recovered as liquid sulphur in Cottrell treaters.

The steam from the waste heat boilers is used for heating the sulphur bins and lines and also for the elimination of the SO_2 in the acidification step.

The sulphur as it leaves the condenser and treaters is very pure, but due to a small amount of precipitated carbon, of practically colloidal dimensions, a slight greenish tinge is imparted to the sulphur. From our experience with selling other products, we find that customers are often prejudiced by the color irrespective of analysis. Hence the sulphur is passed through high-tension electrostatic precipitators to improve the color and from the discharge of these cleaners the average sulphur purity is over 99.95%.

The liquid sulphur is then pumped to a flaking mechanism, or to the rock sulphur storage pile where it solidifies in large blocks ready for shipment.

The foregoing gives an outline of the SO_2 recovery operations with more particular attention to the SO_2 absorption and reduction plants.

At present we are removing 50% to 60% of the total sulphur in our gases as 450 tons of sulphuric acid and 45 tons of elemental sulphur per day. The elemental sulphur production will shortly be increased as the first unit on the low grade gas has recently commenced operation. This step appears on preliminary trials successful and undoubtedly will be the forerunner of other units to treat the balance of this gas.



ALBANY FELT'S showing of the new moving picture, "The Art of Felt Making," in Los Angeles the evening of August 7th, was attended by ninety men from the mills in Southern California.

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PAPER

Rayon and other CHEMICAL USES OF WOOD PULP



Japan's Cellophane Industry

The following interesting article on the manufacture of transparent cellulose sheeting in Japan appeared in the July, 1937, issue of *The Far Eastern Review*, published in Shanghai, China, and is reprinted here with acknowledgement.

"It has been less than 15 years since the cellophane industry was initiated in Japan, but the advance of the industry has been quite remarkable. This is due to a great extent to the marvellous progress which has been made in technique. Cellophane manufactured in Japan, which was formerly principally exported to England and other European countries, is now filling the demand of practically all countries of the world, but this is only a matter of the past six or seven years. The direct cause that has brought the prosperity of the cellophane industry in Japan to its present state can be ascribed, as with other industries, to the earthquake and disaster in 1923. Prior to that time paraffine paper was widely used for wrapping in the markets of Japan. But ever since the first manufacture of cellophane, which is transparent and strong and which at the same time does not permit air or dust to penetrate, paraffine paper has been losing its popularity.

"It is not long since this French invention was introduced to the Japanese public. 'Cello' means fiber and 'phane' glass. It was in 1908 that a transparent paper bearing the trade-mark 'cellophane' registered with various governments of the world, was first placed on the market by a French firm bearing the same name. As the name is protected in foreign countries, save in Japan where the term of the trade-mark registration has expired, the product has different designations in the different world markets. It is called for instance 'viscocell' in Britain; 'Heriozell' in Germany, and 'Zellglas' in the Netherlands. Even in Japan, the export product is called gelatine paper or transparent paper. The goods made by the Dai-Nippon Celluloid Co., are specially trade-marked 'Celly' and the goods made by the Fuji Glyphane factory are known as 'Glyphane.'

"J. E. Brandenberger, the French inventor of cellophane, failed in an experiment to give luster to cotton yarn by treating it with a viscose solution. When dipped in the solution, the cotton thread became stiff and unusable. Through the failure was the beginning of cellophane. The French chemist found that the viscose solution rubbed on the cotton thread solidified into a transparent sheet. Further experiments led to the invention of

the continuous viscose patented by the French government in 1909, but industrial exploitation of cellophane production as an industrial enterprise was started only in 1913. Since then Britain, the United States, and Germany have become cellophane-minded, though the industry was practically monopolized by France before 1923.

"Thus cellophane, the star product of modern chemical industry, has a history of less than 30 years behind it. It is only natural, then, that Japan, the youngest champion in the arena of world trade has started to follow the older powers in this field of activity; and her rising export trade with this product brings to mind that she has successfully imitated and even surpassed her seniors in the technique of manufacture, as shown by the recent perfection of the waterproofing method used in cellophane manufacture.

"It was in 1922 that prominence was given by Japanese newspapers to the story of a Japanese tourist who returned from France with transparent paper as a souvenir. The cellophane products imported from France were placed on the Japanese market in the following year and again the next year, 1924, saw a total cellophane import of 6,600 tons in quantity and ¥30,000 in value. The imports increased to 45,400 tons valued at ¥209,000 in 1929 and to 55,800 tons valued at ¥196,000 in the following year.

"But the world market did not have to wait for the Japan-made cellophane, which was placed on the market as early as 1925, manufactured by the Korensha, later called the Tokyo Cellophane Company. These early products were called artificial silk paper or glass paper by the Japanese manufacturers. Following parallel progress in the artificial silk industry and in viscose production, many Japanese manufacturers began to enter the cellophane industry. As in the case in every new line, some of them—not a small number—failed, while others pressed ahead. The cellophane industry in Japan has had many ups and downs in its short history of ten years. With cellophane imports in the earlier days making easy money, many industrialists vied with each other in entering the attractive new industry. This, however, resulted in over-production and subsequently in keen competition among the Japanese manufacturers, which devoured their products. To remedy the situation, an association was formed in 1933 for the control of the cellophane industry by nine principal concerns.

"The association proved not strong enough to defend its price agreement against underselling by outsiders, the number of which greatly increased with new establishments. The first control body disappeared without having achieved any satisfactory results. A new body for the discussion of cellophane problems was organized in February last year.

"There are at present 13 firms which are producing cellophane and their combined productive capacity exceeds 35,000 reams a month. These firms are not operated on a large scale. Capitalization does exceed ¥3,000,000 and a monthly capacity of 10,000 reams in the largest of all. The plight prevailing in the industry has led producers to merge and effect economy of production and marketing methods. Some firms have been absorbed by bigger ones, while some others are going to surrender their plants to the more powerful concerns. So far the control body of the cellophane producers has been successful in achieving the above measures, but still there are many who predict that the Japanese cellophane industry will never get out of its hardship unless about one-half of the existing plants are amalgamated with the better established concerns.

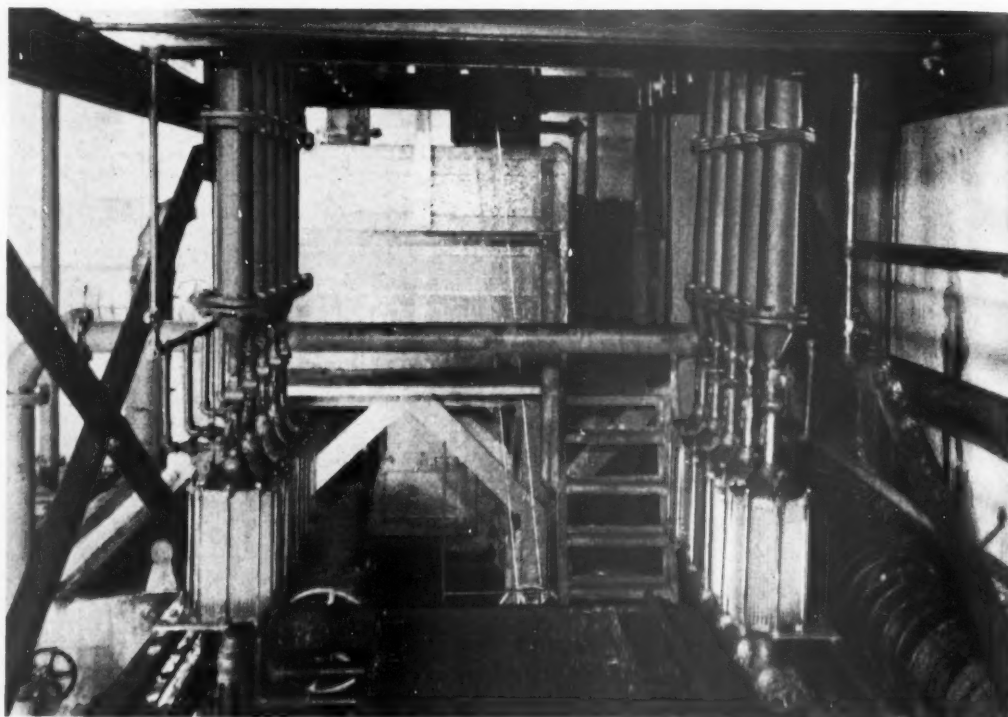
"These internal difficulties, fortunately enough had no effect at all on the monthly increasing output, as well as doing no harm at all to the Japanese cellophane export trade. On the contrary, international engineering attention is being focussed on the extraordinary and numerous improvements which Japanese chemical engineers have been able to achieve in the quality and adaptability to many uses of cellophane. In order to fully appreciate this, it is interesting to outline various uses of cellophane.

"In the manufacturing process, cellophane and artificial silk yarn are the offspring of viscose, a gluey solution made of finer pulp treated with caustic soda, carbon disulphid, and a diluted solution of alkali. When made into thread, viscose is called rayon yarn, while the same material made into thin sheets is called cellophane. Every factory, however, maintains strict secrecy about its particular process and allows no visitors to inspect the plant. The characteristic feature of cellophane is, of course, its transparency. It is easily penetrated by the ultra-violet ray, which ordinary glass does not permit. It may be added in this connection that waterproof cellophane, comparable to the American dupont product, considered the highest quality in the world, has been produced by a Japanese manufacturer.

"Though penetrated easily by various rays, cellophane is proof against water and oil. It is also bacteria-proof and it has a strong resisting power against gas. A cellophane-made shelter against poison gas was an outstanding feature of recent air defense maneuvers held in the Osaka-Kobe district by the Japanese army. There are also experiments being made to use cellophane in making gas-masks, and in connection with many medical and chemical instruments, as progress goes on in the field of scientific study. Cellophane lends itself to dyeing and printing. It is not only highly insulating, but is also unaffected by volatile solutions, such as alcohol, ether, and benzene. Unlike celluloid, it has a high flashing point. In addition, cellophane has a solid durability.

"Consequently, the product has almost

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unlimited uses. Besides those mentioned above, costumes for stage dancers, umbrellas, wall paper, insulators, lamp shades, handbags, toys, and airplane wings are included among the cellophane manufacturers. And the number of uses will grow year by year, as cellophane is the product of a young industry now making rapid progress.

"A cellophane mixture with artificial silk or hemp braid, having been made possible in recent years, enjoys a brisk demand in all countries. Moreover, the Japanese manufacturers have begun producing a cellophane fiber by cutting the cellophane thread into small pieces, one thing amongst other things, which cellophane chemists in other countries failed to think of. Among them, one of the most up-to-date inventions is as a substitute for photographic films. Cellophane is also employed in recording talks.

"With these improved facilities, Japanese cellophane is bound to occupy a supreme place on the world market in the immediate future. About two-thirds of the total production has been exported to foreign markets during recent years. Though the Japanese manufacture registers only a minor figure of the world output, the depreciated yen, low production costs and supreme quality are advantages for Japanese cellophane among international buyers."

Rayon Sail On the Ranger

Ranger, America's successful cup defender, carried a quadrilateral jib made of continuous filament, viscose process rayon yarn. The yarn is "Cordura," developed by E. I. du Pont de Nemours & Company, Inc., for heavy duty truck and bus tires.

Pulp Shortage In Italy

A growing scarcity of wood pulp for the manufacture of paper and artificial fibers in Italy reached a point early in July where Government authorities considered it advisable or necessary to restrict the size of daily newspapers to a maximum of 6 pages (3 sheets) instead of 8 as heretofore. This measure became effective July 15, 1937. The shortage of chemical pulp for the manufacture of artificial fibers is becoming more acute each month, some observers asserting that certain of the largest artificial fiber producers have had to reduce their output in recent weeks to between one-half and three-quarters of their production in the preceding months—say April and May.

Production of chemical pulp in Italy is extremely limited, amounting in 1936 to only 26,000 short tons. Manufacturers of artificial fibers state that no chemical pulp suitable for the production of artificial fibers is manufactured in Italy. It is certain that the small amount of forested areas in Italy now offer no assurance of any substantial supply of wood that could be used in the manufacture of chemical pulp. The possibilities of developing an industry for the manufacture of chemical pulp in Italy have been discussed at various times. At a meeting of the Ministry of Corporations in Rome on July 8 and 9 it was reported that recent

experiments have proven the possibility of manufacturing chemical pulp suitable for the manufacture of rayon and similar fiber from sawdust and other waste parts of the chestnut tree which grows throughout the greater part of Italy; also that chemical pulp suitable for the manufacture of paper can be obtained from wheat and rice straw. Any extensive use of the latter, however, might unfavorably affect their use for stock food and compost, for which they are needed.

Another possibility is producing pulp from "alfa" or esparto grass grown in Liberia. The pulp obtained from this grass is said to be suitable for making both paper and artificial fibers.

Imports of chemical pulp into Italy have increased steadily from a total of 189,900 short tons in 1931 to 361,900 tons in 1935. In the following year receipts dropped to 245,600 short tons and during the current year have been running about 15 per cent below 1936. Imports during the first 5 months totaled only 100,254 tons as against 117,946 tons for the same period in 1936. The leading sources of supply are Austria, Sweden, and Finland.

More detailed data than have been available heretofore concerning these imports have been published for the month of May, 1937. These show that out of a total importation of 18,111 short tons, 8,435 tons were imported for the purpose of manufacturing artificial fibers, and 9,676 for other purposes, chiefly paper making. It is apparent from the foregoing that artificial fiber production in Italy has had to be curtailed. Inasmuch as there are no stock of any consequence on hand, it will be impossible to realize the project announced early in this year to increase Italian production of artificial fiber to between 100,000 and 120,000 tons during the current year. The foregoing calculations of course are rough estimates and do not make allowance for the fact that from 5 to 7 per cent of Italian artificial fiber are produced by the acetate process and depend upon cellulose from cotton linters rather than wood pulp.

The shortage of chemical pulp in Italy is reported to be due to the inability of consumers to obtain the necessary supplies from abroad. Italian fiber producers would have no difficulty in obtaining permits from the Italian authorities to import and pay for ample supplies, of chemical pulp if they were able to secure this article from the foreign producers. (Consul General Walter H. Sholes, Milan.)

Staple Fiber Production in Japan

The growth of staple fiber production in Japan is remarkable. The Japanese Staple Fiber Producers' Association estimates that staple fiber production in Japan in 1932 was 550,000 pounds; in 1933, 962,000 pounds; in 1934, 4,720,000 pounds; in 1935, 13,624,000 pounds; and in 1936, 40,000,000 pounds.

A recent survey of productive capacity of Japanese staple fiber producers reveals a total aggregate daily capacity of 220.5 metric tons as of the end of June, 1937. Expansion projects are scheduled to add another 133.5 tons during the second half of this year, bringing the total at the close of the year to 354

metric tons. The capacity at the end of June agrees closely with previous estimates, but that for the year-end is substantially larger. It is noted, however, that there have been marked changes in capacities of individual companies.

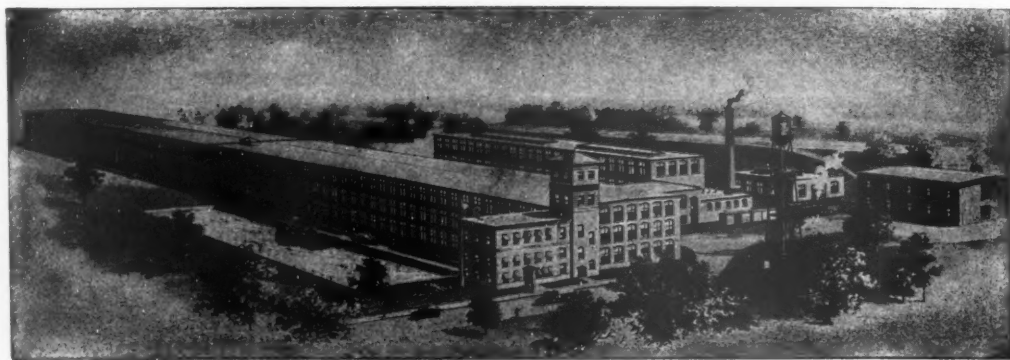
It must be understood that all tabulations of this sort are rather rough approximations. This is particularly true of estimates of future capacity, since for obvious reasons it is impossible to ascertain definite completion dates for all projects. It should be stated, furthermore, that published figures of capacity refer to maximum theoretical capacity, which may or may not be attainable. For example, aggregate capacity during May was approximately 12,600,000 pounds, based on a 26-day working month which is normal in Japan. Operating conditions were extremely favorable, and there were no restrictions on production during the month, but the total output was about 1,000,000 pounds below the theoretical capacity. This was the most favorable showing up to that time.

Beginning with January of this year exports of staple fiber, staple yarn and textiles have been listed in the monthly official trade returns. Figures for the first half year are now available and these show a very rapid increase within this comparatively short period. For example, shipments of staple fiber rose from 697,200 kin in January to 2,039,400 kin in June while staple yarn increased from 247,700 kin to 768,900 kin during the same period. (1 kin equals 1.3228 pounds). The gain in staple fiber textiles was somewhat less pronounced, namely, 599,587 square yards in January and 1,209,380 square yards in June. The aggregate value for the three products was ¥11,730,705 for the first half of this year.

Information concerning countries of destination is not yet available, but it is understood that a substantial percentage of the shipments of staple fiber have gone to the United States.

According to various news reports, the production-control committee of the Japan Cotton Spinner's Association has reached a decision to allow member companies to divert their idle cotton spinning spindles to the production of staple fiber. The "idle" spindles referred to are those sealed under the existing restrictions on production. Formerly the Association prohibited member companies from using these sealed spindles for any purpose, so the new decision is a direct reversal of former policy. The present agreement calls for the sealing of 25 per cent of total installed spindles. Since Association mills have approximately 11,850,000 spindles, this decision affects some 2,960,000 spindles.

It is pointed out that the diversion of this large number of spindles to the production of staple fiber may result in serious overproduction and impair the stability which has been attained recently as a result of the organization of a Staple Fiber Producers' Association. It appears improbable, however, that the full number of cotton spindles can be utilized for staple fiber for various reasons, the most important being the inability to secure supplies of pulp at favorable prices, the difficulty and expense of conversion, and the probability that the operation will not be profitable. (Trade Commissioner Paul P. Steintorf, Tokyo.)



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German Synthetic Fiber Production Up 3 Times in 4 Years

In 1936, Germany's total production of synthetic spinning fibers amounted to 100,000 metric tons, as compared with 31,000 in 1932. Rayon production in 1936 amounted to 55,000 tons (41,000 in 1934) and staple fiber output to 45,000 tons (7,200 tons in 1934). Consumption of staple fiber during 1936 was placed at 49,500 metric tons, or 4,500 in excess of domestic production. About 75 per cent of the staple fiber production is being consumed by the cotton-spinning industry. Since the fourth quarter of 1936, staple fiber production has surpassed that of rayon in Germany, the monthly production figures for the first quarter of the current year having been 7,000 tons for staple fiber and 4,500 for rayon. According to a recent statement issued by the German Office for Raw Materials, Germany hopes to increase its staple fiber production to 100,000 metric tons in 1937 and to 150,000 in 1938.

The shifts that have taken place in Germany's consumption of textile raw materials during the last few years and the marked decrease in the consumption of natural fibers contrasted with the gain in consumption of synthetic fibers are shown in the following table from official sources:

Percentages of each fiber in Germany's consumption of raw materials

Year	Cotton	Wool	Flax	Hemp
1934	41.25	12.5	2.75	2.12
1937	26.2	9.17	4.11	2.74

Year	Jute	Hard fiber	Staple fiber	Rayon fiber
1934	10.5	5.0	4.44	0.4
1937	9.6	4.52	5.9	10.21

Germany is also entirely dependent on imports for its requirements of raw silk and yarn. In 1936 imports of raw silk and yarn amounted to 3,500 metric tons valued at 26,600,000 reichsmarks (\$10,728,000). (Consul General Alfred R. Thomson, Dresden.)

Germany Reducing Dependence on Foreign Textiles

Recent statistics showing the consumption of textile raw materials in Germany, published by the Institute of Economic Research, at Berlin indicate that further results have been achieved in carrying out the policy of the German Government with regard to greater independence of foreign raw materials, which is the principal aim of Germany's "Four Year Plan."

Germany's total requirements of textile fibers were estimated at 839,000 metric tons in 1936; if rags are included, the figure would be 885,000 tons. Domestic production during 1936 included 47,000 tons of natural fibers (chiefly flax, and to a smaller extent, wool and hemp) and 100,000 tons of synthetic fibers—a total of 147,000 tons, against 41,200 in 1933 when production of natural fibers was placed at 8,400 metric tons and the output of synthetic fibers at only 32,800. In additions between 135,000 to 150,000 metric tons of spinnable fibers were recovered from rags during 1936, the report stated.

The total net value of Germany's textile raw material imports in 1936 approximated 575,000,000 reichsmarks (\$231,898,000, United States currency). After deduction of 300,000,000 reichsmarks

(\$120,990,000) for textile semimanufactures and manufactures exported during the same year, the foreign trade balance sheet of the German textile industry showed an adverse balance of 275,000,000 reichsmarks (\$110,908,000), it was calculated in the report. Imported spinning fibers were estimated to have accounted for about 81 per cent of the total German textile raw material requirements in 1934 in point of volume and 70.4 per cent in point of value, while at the beginning of 1937 the proportions were placed at 62 per cent of the volume and 53.7 per cent of the value, on the basis of actual figures. The Institute, however, made an adjustment, because of the additional cost of domestic raw materials, which increased the value percentage for foreign raw materials to 57 per cent.

German Synthetic Wool Production to Expand

It has been announced that beginning early in 1938 the production of synthetic wool, which amounted to only 45,000 metric tons in 1936, will be expanded to 140,000 tons per year. A new synthetic wool plant will be constructed near the I. G. Farben plant at Woolfen. It is planned that German wool will be used where possible in place of imported wools. There recently appeared an admonition to retailers to be sparing of their use of packing paper and paper boards in view of the increased demand for wood pulp for other purposes than paper making. (Consul Warren M. Chase, Hamburg.)

U. S. Rayon Yarn Imports Up, Exports Down

For the first six months of 1937 imports of rayon and other synthetic textile yarns increased more than three times over the imports in the first half of 1936, reflecting the shortage of yarn producing facilities in this country prior to the completion of new plants now under construction.

Imports of rayon and other synthetic textiles for the first half of 1937 amounted to 23,297,714 pounds as compared with the importation of 7,009,897 pounds in the first six months of 1936. The 1937 value was \$3,599,131 and the 1936 value was \$1,079,873.

Exports of rayon yarns from the United States in the first half of 1937 dropped 777,243 pounds, valued at \$560,885, as compared with the 1,024,434 pounds, valued at \$459,888, in the same 1936 period.

Rayon From Rice Straw?

It is reported from Tokyo, Japan that a company is being organized to manufacture rayon grade pulp commercially from rice husks of which there is a large supply.

The report states that the process was developed by the Tokyo Industrial Laboratory, a division of the Department of Commerce and Industry in collaboration with the Research Institute of the South Manchuria Railway Company.

Western Safety Conference Meets in Portland

Safety workers from all the western states, Lower California, British Columbia, Alaska and Hawaii gathered in Portland, Oregon August 17-20th during the third annual Western Safety Conference, and discussed ways and means of meeting the safety problems peculiar to the West.

In this conference, the pulp and paper industry took a prominent part, and contributed liberally to the program.

M. L. Mammen of the Crown-Zellerbach Corporation was not only a member of the Board of Governors, representing industrial safety, but also acted as general chairman of arrangements. He and his company played a large part in the success of the convention.

Safety teams from various pulp and paper mills were among those giving practical demonstrations of industrial first aid, one of the features of the conference. Among these were teams from the Crown Willamette Paper Company at Camas, Washington Pulp & Paper Corp. at Port Angeles. Olympic Forest Products Company of Port Angeles and the Rainier Pulp & Paper Company of Shelton. The highest award in the demonstration was earned by the Crown Willamette team from Camas.

Many phases of safety work were covered during the four day session, including home safety, highway traffic, public safety, fire prevention, safety education, first aid, etc. Industrial safety work

came in for its full quota of discussion, and was the subject of a paper by A. C. Carruthers, presented by F. E. Kennedy.

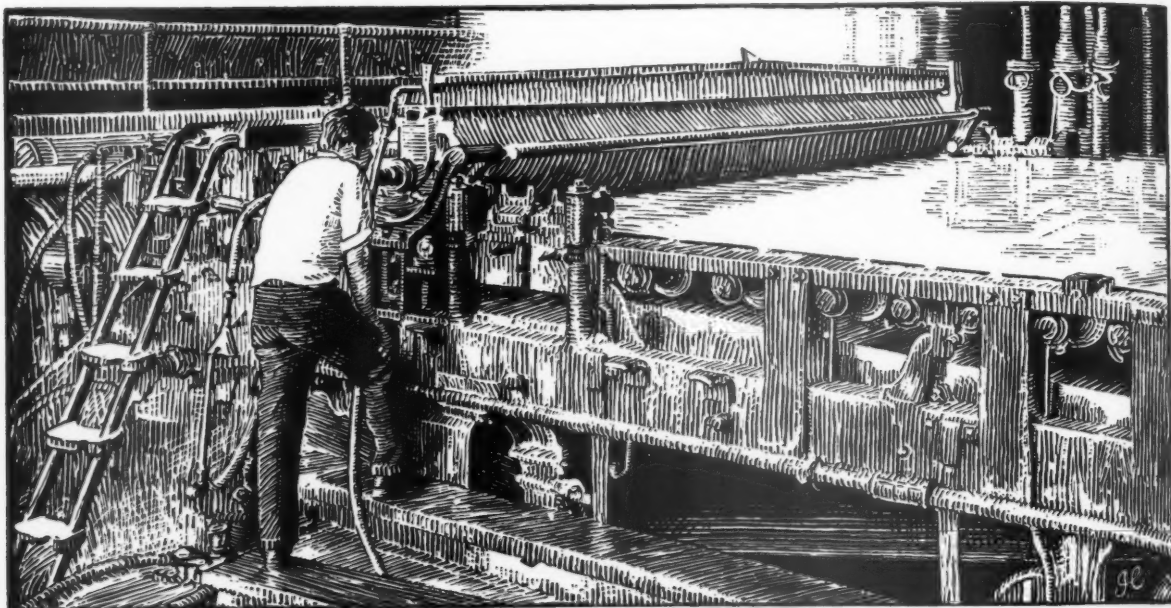
J. Kirk Baldwin, treasurer of the State of Wyoming, spoke on "Industrial Accidents." The problem of occupational diseases in industry was discussed by Reginald Moss of the Association of Casualty and Surety Executives, San Francisco. Another prominent speaker was William T. Cameron of the Division of Labor Standards, Washington, D. C., who spoke on "Accident Prevention—Common Ground for Labor, Management and Administration." Progress made in the last 20 years in safety work in this country was summarized by William H. Cameron, managing director of the National Safety Council of Chicago.

This safety conference was of particular interest to western industry due to the fact that the accident rates in this section are among the highest in the nation. The logging industry, an adjunct of pulp and paper manufacture, has the highest rate of all, and the pulp and paper industry, while much lower than many, appears among the more hazardous.

The activity of the industry in supporting and taking part in the conference is evidence of the great interest being taken in accident prevention, and an indication of why the safety experience of the pulp and paper mills is becoming more favorable.

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More on the Bonneville Pulp and Paper Report

A Brief Summary of Part III, "Statistics of the Pulp and Paper Industry", Prepared by the War Department, Corps of Engineers, North Pacific Division, for Inclusion in Their Forthcoming Report on the Potential Use of Bonneville Power by the Pulp and Paper Industry

One of the most extensive statistical studies of the pulp and paper industry of the Pacific Northwest and its relation to the national industry as a whole, has recently been completed for the War Department, Corps of Engineers, U. S. Army, in connection with their surveys of industrial possibilities opened up by Bonneville Dam, large hydroelectric project of the lower Columbia.

This report constitutes part III of "The Pulp and Paper Industry of the Pacific Northwest," prepared by Raymond M. Miller, consultant, and Frank My Byam, research specialist. Part I covers the economic aspects of the area and the possible effects of the Bonneville development upon the industry, and will be discussed in a subsequent issue. Part II discusses "Pulpwood Resources of the Lower Columbia River Area" by Hoffman and Wakeman of the U. S. Forest Service, which was reviewed in the July, 1937 issue of this journal. Part III, with which this is concerned, presents "Statistics of the Pulp and Paper Industry."

The purpose of the report is to supply general information and statistical data concerning the industry of the Pacific Northwest in particular, but also for other sections of the United States and Canada. It is divided into two sections, the first giving the history, organization and statistics of the Northwest, and the second presenting statistics for the United States as a whole.

Section I includes a brief description of the Northwest, its general features, climatic conditions, timber resources and the volume of pulpwood species available, followed by a historical review of the development of the industry in this region. The present organization of the industry with ownership, capacities and distribution of the mills is given both for the Pacific Northwest and British Columbia by types of products, types of mills and areas. Complete figures on production, imports and exports for the three Coast states, together with net available for consumption, are given for the various types of papers, and similar information on wood pulp.

Section II gives a review of the United States industry as a whole, with a discussion of southern kraft developments, the Canadian newsprint and the Northwest sulphite pulp situations. It also contains a large amount of statistical data covering the entire United States and Canadian industry, and illustrating the position of the Pacific Northwest with respect to all other producing areas.

Considerable interesting historical background material is included, tracing the development of pulp and paper manufacture since the first mill construction in the last century. In addition to a discussion of regional features of the Pacific Northwest, pulp wood resource figures are presented for the entire area. Details on the Columbia River district resources are not given, this being covered by the Forest Service in Part II of the report.

It is shown that the region is credited with 378,394,000 cords of pulpwood available for cutting, of which about 62 per cent is western hemlock, and that potential regrowth when under intensive forest management would provide sufficient supplies, if all used for pulpwood, for pulp production nearly six times that of current yearly totals. Allowing 50 per cent of all pulpwood species for lumber or other products, the present yearly mill capacity of 1,408,120 tons could still be tripled without exhausting the forest resources.

Present trends of the industry are considered in the report, with emphasis on the continuing expansion of sulphite pulp mill capacity, and the increasing important place western hemlock pulp is finding in the rayon and similar markets.

The present status of the industry in this section is clearly revealed in the statistics and explanatory text dealing with production, imports, exports and consumption for both paper and pulp, in the closing pages of Section I.

Much of the same type of information is given in Section II for the entire industry of the country. A general description of the industry and geographic distribution of the mills, with capacities, is given, supplemented by maps and graphs to illustrate. The statistical data include paper production by regions, states and classes of product; imports and exports by regions and customs districts; quantities of pulping materials consumed by census years; pulpwood consumption by species, years and process used; im-

ports of pulpwood by sources and customs districts entered, and exports by years. Data of similar nature are given for wood pulp.

In its entirety, Part III of the Bonneville report constitutes a source of basic information for reference by those interested in the relation of the pulp and paper industry to the industrial development of the Pacific Northwest, and in the factors involved in the national industry which have bearing on this.

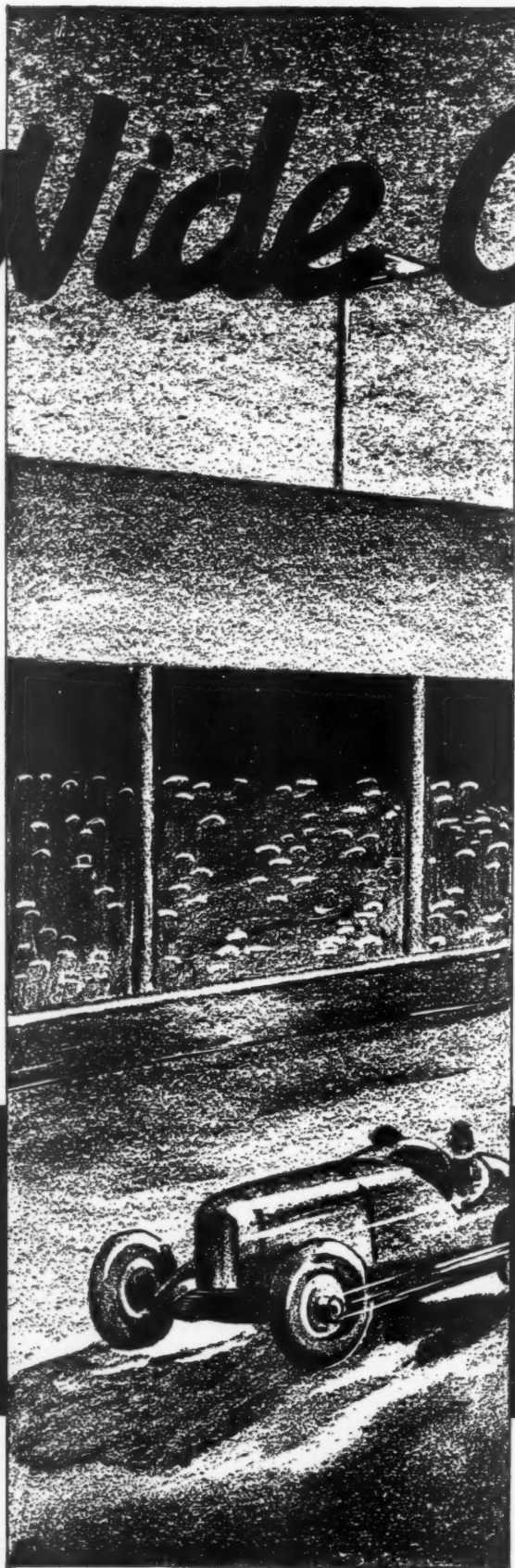
No attempt is made to analyze nor to interpret the data presented, this being the subject of Part I, now being completed under the title "Economic Factors for Pulp and Paper in the Columbia River Area."

The report, in mimeographed form, is being published by the War Department, Corps of Engineers, U. S. Army, Office of the Division Engineer, North Pacific Division, Portland, Ore. Copies may be obtained from this office at a price of 75 cents for each of the three parts.

Sweden Investigates Possible Use of Straw Board

The use of straw as a raw material by the manufacturers of wrapping paper was quite heavy in Sweden during the last half of the nineteenth century, but this practice was discontinued progressively as producers of paper built their own pulp mills. Paper board containers are now used to a much greater extent than formerly in the place of wooden boxes and crates, and consequently there is a great need for pulp suitable for the manufacture of box boards. The Swedish Minister of Agriculture recently appointed a Committee of 3 experts to investigate and report on the possibility of using straw for industrial purposes in Sweden. It was pointed out through the press that wood pulp is used in the manufacture of wall boards as well as paper and paper boards. The Minister of Agriculture stated, too, that normally there is a surplus of at least 400,000 metric tons of straw in Sweden annually. It is not expected that paper or board made of this material could be sold in foreign markets, but it could be used at least to a limited extent in the domestic market. The Committee was instructed to build its suggestions and recommendations around a many-sided and elastic set-up for the manufacture of paper and board. It is felt that small plants, in which the investment would be low, might be the solution. (Trade Commissioner Basil D. Dahl, Stockholm.)

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Report High Spot Price For News Print

Interlocking Contracts Largely Eliminated

Scandinavian newsprint mills are obtaining as high as \$75 for spot sales of newsprint, according to an interview obtained by M. R. Chipman, Canadian trade investigator, with Einar Flygs, manager of the pulp division of Svenska, Cellulosa Co. (Swedish Pulp Co.).

The Swedish company is making about 35,000 tons of newsprint annually and 700,000 tons of sulphite and sulphate pulp, over 375,000 tons of which went to the United States last year.

Mr. Flygs stated that a year ago he was getting \$45 a ton for newsprint in South America. Reflecting the price increase by Canadian mills, this advanced to nearly \$52.50 and some spot tonnage has sold as high as \$75.

"Sweden's newsprint price in other markets is largely dependent on what Bowater's Paper Mills, Ltd., does in England," said Mr. Flygs. "To the amazement of the industry, Bowater's established the price of \$50 for 1937 and 1938 with contract customers. It is expected, however, that Bowater's will get a voluntary increase from this contract price—perhaps up to \$55.50 for the second half of 1937 and as high as \$65 for 1938 and \$70 for 1939."

Bowater's, in addition to protecting its wood supply by buying 1,000 square miles in Canadian timber limited, has purchased two Swedish mills. This will give Bowater's 300,000 tons of wet pulp but still leaves the firm dependent on being able to buy wood for these mills. This factor is important because Bowater's imports all the wood and pulp for its mills—an operation that proved profitable during depression but now leaves the company vulnerable with regard to basic costs.

Bowater's produces some 500,000 to 600,000 tons of England's estimated newsprint production of 800,000 to 1,000,000 tons. It is reported that for the 20 per cent of its production not sold to contract customers at the \$50 rate, Bowater's have been getting from \$65 to \$75 recently.

Directors of Great Northern Paper Company are reported to be meeting some time this month to decide on their contract price for the first half of 1938. To date the Canadian mills have notified their customers that, during the first half of 1938, newsprint prices will be on a basis of \$50 a ton delivered in the New York and Chicago zones, with price differentials to outside areas.

Great Northern arbitrarily set the last two price changes. Reports are that its price next year will be somewhat under that initially set by International Paper Company, but the general feeling is that it will not desire to pursue a lone wolf policy. However, there is no confirmation for either of these suppositions.

As far as the Canadian industry is concerned, Great Northern's price policy will not upset arrangements already made, except that a price below \$50 a ton would affect such interlocking contracts

as remain. Less than 5 per cent of the Canadian shipments to the United States would be affected, to such an extent have these interlocking contracts been eliminated.

For the first seven months of this year Canada shipped over 1,600,000 tons of newsprint to the United States, a gain of 23.5 per cent over the corresponding period last year. If this rate is maintained during the first half of next year it will mean that 80,000 tons will be influenced by Great Northern's price policy, always provided that it is less than the standard rate. The balance of the tonnage is unaffected and there is no reason for believing that the rest of the industry will adjust prices to a lower level.

With the assurance that the \$50 price will be made to stick for the first half of 1938, manufacturers are in a much better position to revise prices during the last six months to provide for any advance in manufacturing costs.

Publishers Increase News Print Stocks

According to the Pacific Coast edition of the Wall Street Journal, United States publishers are accumulating large stocks of news print as a hedge against 1938 price advances.

"To soften the effect of the \$7.50 a ton impending price rise in news print, United States publishers are accumulating tremendous stocks of news print and by the first of the year they will probably have more of the paper on hand than ever before. Up to the end of July 397,220 tons of news print had been accumulated by 430 newspapers, which was equal to 54 days supply. At the end of August in 1924 the papers had 56 days supply, but not since then have stocks risen as high as the present level.

"The publishers have been taking their equal monthly quotas under their contracts and, with advertising volume slipping back to the 1936 level against earlier increases over last year's total, stocks have been building up rapidly. In March, when International Paper Co. announced the price increase to \$50 a ton for the first half of 1938, stocks were only 303,944 tons or 34 days supply. At the end of June stocks were equal to 41 days supply, the big bulge coming during July, a month of low consumption. August also should witness a big jump in stocks and September should continue the uptrend.

Holdings Cost 50 Cents a Month

"It is estimated that it costs publishers about 50 cents a ton a month to carry stocks of news print. Should the price of \$50 a ton continue for the first half of 1938, therefore, news print held for the entire six months' period would still cost less than that at the new price.

"Great Northern Paper Co., one of the producers whose price is used in establishing contract prices, has not yet announced its price policy for next year. Great Northern in the past two years had made price advances, moving up \$1 a ton in 1936 and \$1.50 a ton this year, against more drastic changes hoped for by many other factors in the industry.

Lower Canadian Output Seen

"The aftermath of the stocking of news print at this time will probably mean somewhat lower production by Canadian mills during the early months of 1938. This would not necessarily be a severe handicap to Canadian mills because it would allow them to ship larger tonnages of the paper to England. Against a contract price of \$44.46 for 1937, the 1938 price on English contracts has been set at \$62.25. At this price a higher profit would be realized on Canadian news print sold in England than on the same commodity sold in the United States.

"Furthermore sensational advances have been recorded in the price of news print sold in South America, Australia and many other world points. A spot price of \$75 a ton for Swedish news print in South America has been reported. Despite the high prices obtainable elsewhere, many European producers are still holding on to their United States contracts at lower prices and profits because of the comparative stability of the demand here as opposed to that in other countries."

News Print Production in July

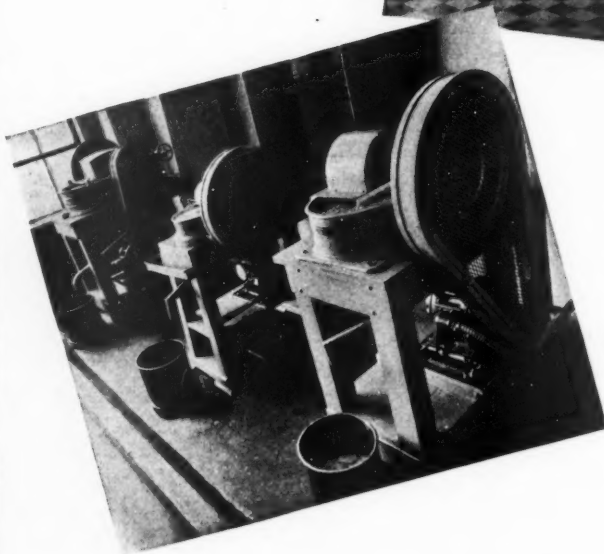
Production in Canada during July, 1937, amounted to 314,529 tons and shipments of 301,850 tons, according to the News Print Service Bureau. Production in the United States was 78,205 tons and shipments 79,759 tons, making a total United States and Canadian news print production of 392,734 tons and shipments of 381,609 tons. During July, 30,093 tons of news print were made in Newfoundland, so that the total North American production for the month amounted to 422,827 tons. Total production in July, 1936, was 375,369 tons.

The Canadian mills produced 335,157 tons more in the first seven months of 1936, which was an increase of 19 per cent. The output in the United States was 14,752 tons, or 2.8 per cent more than in the first seven months of 1936 and in Newfoundland, 25,282 tons or 13.8 per cent more, making a total increase of 375,191 tons, or 15.1 per cent.

Stocks of news print paper at Canadian mills were reported at 79,993 tons at the end of July and 13,090 tons at United States mills, making a combined total of 93,083 tons, compared with 81,958 tons on July 30, 1937.

India Reduces Duty on News Print

The duty on news print paper imported into India has been reduced by the central Government to 1/2 rupee and 1/12 rupee per cwt. (112 pounds) on unglazed and other sorts of news print in rolls. Formerly the rates were assessed on an ad valorem basis. In recent weeks the press throughout India including the leading dailies in the more important cities, have strongly advocated reduction in the tariff applicable to newsprint. (Trade Commissioner C. Grant Isaacs, Calcutta.)



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The Problem of Occupational Diseases in Industry

by REGINALD MOSS*

AS a preface to this discussion of "The Problem of Occupational Diseases in Industry," I would like to explain briefly the interest in the subject of the Association of Casualty and Surety Executives, which I have the honor to represent. The Association is composed of some 60 of the leading casualty insurance and surety companies of the country, the majority of which write a substantial volume of workmen's compensation insurance. Its activities are largely along research lines—studying problems and situations that are of mutual interest to its member companies and the insuring public. The development of occupational disease-consciousness in recent years, and the bringing of such diseases under the workmen's compensation laws of the various States, with a resultant increase in the cost of compensation benefits, is such a problem, and consequently has received the careful study of the Association.

It is recognized that where a workman's death or disability results from a disease that arises out of his employment, he or his dependents are entitled to compensation just as if the calamity had resulted from an accident in the course of employment. At the same time it is felt that occupational disease coverage should be carefully studied and drafted so that, first, any abuses will be obviated at the outset, and, second, that costs of compensating such disabilities will not place too heavy a burden on industry. Hence, the research work which my Association has done on the subject.

This is a Safety Conference. On first thought, "safety" denotes only accident prevention; and nearly all the workmen's compensation laws—with a few exceptions in this country—originally covered only "injuries by accident" (otherwise called "accidental injuries"). But from the social standpoint, "safety" calls for just as much protection against diseases as against accident; and to be included as safety measures are all the campaigns that have been or are being waged for the prevention of yellow fever, smallpox, diphtheria, tuberculosis and other scourges of humanity. Now the workmen's compensation laws are being brought into the same category, by being amended or liberally construed to cover occupational diseases, thereby placing the burden upon industry of preventing such diseases or of compensating for their consequences.

In principle, occupational diseases mean only those diseases for which in industry (in the person of the employer) can rightly be held responsible; that is, diseases which are peculiar to and characteristic of particular processes, occupa-

tions or employments, as distinguished from those diseases which are more or less common to humanity or to the community, regardless of differences in occupation.

A number of the workmen's compensation laws in this country cover occupational diseases implicitly by including all "injuries"—and not merely "accidental injuries"—arising out of the employment, or by expressly covering "occupational diseases" but without defining them, or by covering "occupational diseases" as defined in general terms. But a majority of our compensation laws that cover occupational diseases, and nearly all of such laws abroad, define such diseases by listing them in a schedule.

The great weight of expert opinion, I believe, is in favor of this "schedule plan." It not only avoids much uncertainty and wasteful litigation, including possible abuse of power by Industrial Commissions, but, by directing the attention of employers specifically to the diseases for which they will be held responsible, it is also most conducive to prevention. The experience in California, in my opinion, confirms the merits of the "schedule plan." Ever since 1918, our workmen's compensation law has implicitly covered silicosis, as well as other industrial diseases; but hardly anybody ever heard of silicosis and few employers had any idea of its seriousness or of means of preventing it, until, in 1930 and 1933, a series of decisions validating long belated claims surprised them and their insurance carriers with a mass of liabilities for cases of a disease contracted years before and of which they had had no warning.

In connection with compensation for occupational diseases, prevention is of first importance. Experience indicates that the standard occupational diseases—that is, those which have longest been or now are more generally recognized, such as lead, zinc, mercury and phosphorus poisoning, the "bends" or compressed air illness, etc.—can be almost entirely prevented, or greatly reduced, by practicable means. But as to that more lately recognized occupational disease, silicosis, there are doubts and difficulties. In Great Britain and New South Wales, where they have had longer experience with compensation for silicosis than anywhere in this country, the losses therefrom, as represented by the cost of compensation, still show increasing tendencies.

I have said that, in regard to occupational diseases, prevention comes first, compensation second. Therefore I would wish to impress it upon you that the matters relative to compensation just discussed are all pertinent to prevention. I believe that the imposition upon employers of a liability to compensate for occupational diseases is a most effective

incentive to their prevention—but only, I would emphasize, upon condition that such liability be reasonable and practically endurable and that the insurance provided be at adequate rates, proportionate to the risks covered by individual policies. If the liability for occupational diseases imposed by law be unendurable in any respect or degree, it will in that respect or to that degree merely kill the goose that lays the golden egg—as happened in New York in connection with silicosis.

And if the insurance be so provided that industry may shift any material proportion of its losses onto insurance carriers, or that the bad risks may distribute their excess losses among the good risks, the incentive for prevention will be greatly reduced, where not entirely eliminated. Further and, in my opinion most reasonably, it is contended that if employers be made liable for compensation for all known occupational diseases, "regardless of fault," such liability should, as between employer and his employees, be exclusive of all other liability for injuries to the health of employees alleged to arise out of the employment otherwise than "by accident."

Reasonable standards of sanitary conditions in all industrial employments should be enforced by the State. Beyond that to hold the employer liable for compensation for such occupational diseases as may nevertheless result and yet to leave him liable to damages in speculative litigation, based upon his alleged negligence, wherever there is some speculative casual relation between the working conditions and an employee's illness, would be intolerable. A primary purpose of the workmen's compensation law is to eliminate the wasteful litigation and uncertainties of the old employers' liability system. Wherever law for the compensation of occupational diseases may be adopted, it should be so drawn as to fulfill that purpose.

Turning now to the direct methods and means for occupational disease prevention: Manifestly these are matters for formulation by specialists—by engineers, chemists, biologists and industrial physicians. Given a compensation law such as I have advocated, the more highly organized industries may be relied upon to meet the problems of prevention by methods dictated by their own experts. But the general run of industries will need authoritative advice. And the marginal establishments will need to be whipped up to the maintenance of minimum standards. Moreover, if the schedule plan of defining occupational diseases be generally adopted, as I hope it will be, there will be need of appropriate procedure to determine additions to the schedule as new industrial diseases are developed.

As to the public machinery best adapted to promote prevention, there may be reasonable differences of opinion, but

*Pacific Coast Manager, Association of Casualty and Surety Executives. An address before the Third Annual Meeting of the Western Safety Conference at Portland, Oregon, August 17-20th, 1937. (Portions of Mr. Moss' address not of interest to the pulp and paper industry have been omitted.—Editor.)



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the experts upon whom I rely recommend the creation of a Bureau of Industrial Hygiene in the State Health Department or Labor Department—preferably, since more appropriately, in the Health Department—with a personnel of highly qualified specialists, and adequately equipped to perform the following functions:

First: To study the causes of diseases occurring among employees in industry; to instruct and advise as to the means for their avoidance and prevention; and to recommend to the Legislature additions to the schedule of occupational diseases, along with such amendments to the law relative to occupational disease compensation as experience may demonstrate to be needed. It may be advisable to go even further and to empower the Bureau of Industrial Hygiene itself to add to the schedule of occupational diseases, subject to special regulations.

Second: Such Bureau of Industrial Hygiene should be empowered to make, amend and enforce reasonable rules for the protection of the health of employees in industry. Such rules should be clear, plain, intelligible and practicable, so as to establish standards that all persons affected can understand and live up to in certainty. Such rules should replace all existing statutes that are arbitrary, out of date, or that impose upon employers obligations ignorantly intended for the protection of the health of employees, but which are so indefinite that compliance can seldom be certain, leaving it open for ignorant juries to find the employer at fault and to mulct him for damages whatever he may do.

Such rules—which would naturally take the form of codes for various industries—should be adopted or amended only after ample public notice and hearings open to all parties affected, and should be subject to review by the courts as to their reasonableness. A model for provisions to regulate the rule-making power to be delegated to such a bureau as here advocated may be found in the Illinois Health and Safety Act as enacted in 1936. Finally, the rules so formulated should be enforced by appropriate penalties; and it should be provided that they shall not serve as bases for damage suits for alleged non-compliance.

One of the most difficult features to agree upon in a program for occupational disease prevention relates to the practices of pre-employment and periodical medical examinations of workmen. Organized labor is inclined to oppose anything in that line that may be proposed. In the New York law, labor succeeded in having inserted a declaration to the effect that pre-employment examinations are against the public policy of the State. But some such examinations are necessary. I believe that the difficulties in the way of general agreement upon essential practices in this respect can be ironed out and the necessary examinations made, under public regulation, to avoid the abuses that labor fears. But I can not venture to predict how this can or will be worked out.

It will doubtless interest you to know how the eight States in what is commonly known as the Pacific Coast field treat occupational diseases under their respective workmen's compensation laws.

The Arizona act specifically excludes occupational and other diseases except

as they result from injuries by accident.

In California the law was amended by the 1917 Legislature to cover occupational diseases by enactment of the provision: "The term 'injury' shall include any injury or disease arising out of the employment."

The present Idaho law does not cover occupational disease except cases resulting from injuries by accident, but the 1937 Legislature passed a bill creating an Occupational Disease Commission, which is to work with the State Department of Health in making a survey of the industrial disease problem and report its findings to the next Legislature.

The Montana Legislature likewise this year adopted legislation to provide for a survey of the occupational disease situation as a possible basis for future legislation. The commission has been appointed and is at work.

In Nevada, where the business of insuring the compensation liability of employers is a State monopoly, the law excludes occupational diseases except where they are caused by accident.

Oregon likewise does not cover occupational disease under its workmen's compensation act, but a resolution was adopted by the Legislature this year for appointment of a commission to prepare an amendment for submission to the 1939 Legislature that would extend compensation to include industrial diseases.

The Utah workmen's compensation act excludes occupational diseases except such cases as result from injuries by accident.

In Washington, the compensation act was amended by this year's Legislature so as to include under compensation benefits a schedule of 21 specific industrial diseases. The amendment provides that the cost of occupational disease coverage shall be borne equally by the employer and the employee.

Taking the country as a whole, it is found that there are nine States, including the District of Columbia, that provide compensation for occupational diseases under general provisions. These states include California, Connecticut, Illinois, Indiana, Missouri, Nebraska, North Dakota and Wisconsin. Twelve other States require employers to compensate for occupational diseases under a schedule provision which specifies the diseases for which benefits shall be paid. Several other States, notably Massachusetts, have by court decisions extended the scope of compensation laws to include at least certain occupational diseases.

I have now outlined the subject assigned to me as comprehensively as I am able. The particular program that I have advocated follows generally the "Suggestion for Provisions for a Workmen's Compensation Plan for Occupational Diseases," formulated by an Advisory Committee of the Association of Casualty and Surety Executives. Copies of this brochure may be obtained upon request addressed to the Association at No. 1 Park Avenue, New York City. Such program, it is recognized, would need some variations to adapt it to local conditions in any particular State. It is also to be understood that many of the features of such programs may not be generally agreed to. But I hope that by presenting what I am led to believe is a consistent and practicable program

for dealing with occupational diseases, I have aroused your interest in the subject sufficiently to incite you to a detailed study of the problem, with all its complexities.

New Brunswick Raises Stumpage Prices

The Minister of Lands and Mines for the Province of New Brunswick, Canada, has announced that stumpage of timber cut on Crown Lands will be at the rate of \$3.50 per one thousand superficial feet for the year 1937-38 as compared with \$2.00 per one thousand superficial feet in effect for the year 1936-37, or an increase of \$1.50 per one thousand superficial feet.

Although, it is reported, that several lumber operators object to the increase it appears that the majority of operators consider the new rate reasonable and fair under existing conditions.

Improved prices which have prevailed for the past two years and the general upturn in business, and the Government's need of larger revenue are factors contributory to the increase in stumpage rate imposed by the Government Department of Lands and Mines. (Vice Consul Frederick C. Johnson, Fredericton, New Brunswick, Canada.)

To Expand Argentine Pulp Production

The Celulosa Argentina, S. A. has announced its intention to increase its production of chemical pulp to 44 short tons per day by the early part of next year, as compared with a present output of 6½ tons per day. This company utilizes straw in its production of chemical pulp. The firm has also announced its intention to manufacture mechanical as well as chemical pulp. To finance this expansion the company is raising its capital from 5,000,000 to 30,000,000 Argentine paper pesos.

The firm Celulosa Argentina, S. A. is understood to be controlled by the large Argentine paper interests known as "La Papelera Argentina, S. A.," Buenos Aires. (Trade Commissioner A. Cyril Crilley, Buenos Aires.)

Stoetzel of Marathon on Coast

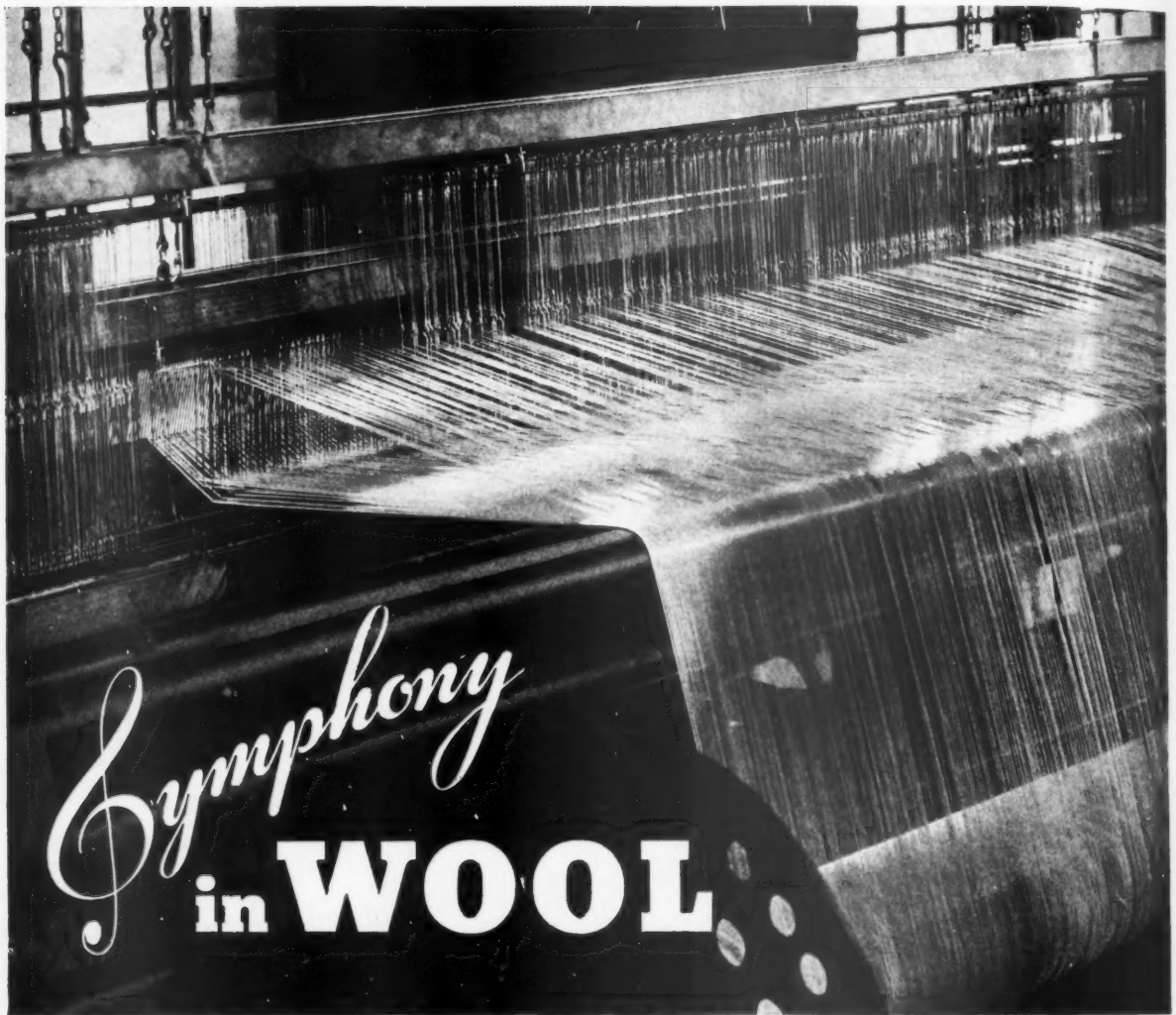
E. D. Stoetzel of the industrial relations department of the Marathon Paper Mills Company, Rothschild, Wisconsin, has been on the Pacific Coast recently visiting the various pulp mills and studying industrial relations activities in this section.

He spent some time in San Francisco, later going to Portland, then on to Tacoma and Seattle.

Pulp Employees Enjoy Picnic

Over 1000 employees of the Grays Harbor Pulp & Paper Company, Hoquiam, Washington, and their families, attended the annual company picnic at Evergreen park on August 22nd.

During the afternoon a sports program was carried out and later on dancing was enjoyed.



Symphony in WOOL



Pacific Coast Representatives:
Pacific Coast Supply Company
 Pittock Block—Portland, Ore.
 708 White Bldg.—Seattle, Wash.
 343 Sansome St.—San Francisco, Calif.

A GREAT symphony is the perfect result of music written in many parts... of instruments tuned in perfect harmony... of a hundred skilled individual performances... under the magic baton of the master.

A Kenwood Felt is a symphony in wool. Its specifications are as carefully written as a composer's score. Months have gone into the selection and handling of the wools, the spinning of the yarns, the setting up of the looms, the weaving, napping, finishing. Only supreme skill in preparation makes possible that perfection of performance which Kenwood Felts deliver for the papermakers of America.

F. C. HUYCK & SONS

ALBANY, N. Y.

Progress in Controlling Industrial Accidents

by W. H. CAMERON*

Organized industrial safety efforts in our country are credited with saving the lives of 270,000 workers during the past twenty years; also with preventing the injury of about 27 million others. In short, only about one-half as many workers are killed in accidents today as was the case in 1913.

Industrial injury rates during the past ten years have decreased more than 60 per cent, but the decrease in the number of severe injuries has been only 40 per cent since 1926. These are the permanent partial disabilities—injuries which cause the loss of fingers, hands, arms, toes, feet, legs and of eyesight—injuries that cripple a man for life.

The crippling accidents seem to have different causes than the general run of industrial accidents. The most prevalent types, covering all industrial injuries, as reported in the 1937 edition of "Accident Facts," are divided as follows:

Handling Objects	29%
Falls of Persons	20%
Machinery	9%

Accidents that produce the majority of permanent disabilities are classified in the same source as follows:

Machinery	25%
Handling Objects	20%
Falls of Persons	16%

Machine accidents may not occur often, but when one does occur the damage may be very serious. Machine accidents are caused in part by human failure, often by shortcomings of the worker; but it is also true that complete guarding of the machine is the only way to prevent an accident due to its operation.

Let us compare the average industrial accident methods of 1917 with those of 1937—just 20 years ago.

Science in Accident Prevention

In 1917 industrial accident prevention as a science did not exist. It is true that safeguards, good or bad, often were applied to existing machines. But today the majority of manufacturers build safety into the machines. This movement for "safeguarding at the source" has grown all over the world. I found it a very lively subject at the recent International Safety Conference, at Amsterdam. Some foreign countries already demand that all imported machinery shall be fully safeguarded before it is permitted to operate.

Back in 1917 there were some pioneer efforts to correct hazards of a mechanical or physical nature. Then a study of severe accidents brought forth the term "engineering revision"—meaning that the entire plant and equipment, or working conditions as a whole, must have the attention of the engineering staff of the industry. The plant should be built with every safety principle imbedded in the structure. It should be a part of every

machine. It should be the backbone of the heating, lighting, ventilating and exhaust systems—and so forth.

Industrial hazards today are corrected as a matter of routine good practice; but in spite of the recognition of this principle 20 years ago, engineering revision has not yet reached the general acceptance it deserves. Remember that the permanent partial disabilities have been reduced only 16 per cent since 1926, as compared with a 60 per cent reduction in general industrial injury rates.

Accident Causes

The causes of accidents were not accurately known 20 years ago, nor were the accidents analyzed to determine all of the factors involved. Today causes have been identified; analyses of a thorough-going character are more common. However, even as late as 1936, I was shown an accident report listing 417 lost-time accidents where the employer claimed that they were all due to "personal carelessness of the workers." One of these accidents resulted in injury to a worker who fell because of a broken run in a ladder. That ladder was given to the worker. He did not notice the broken rung, and he was made to shoulder the blame because the industry had not provided him with a safe ladder.

We know today that 98 per cent of all accidents are preventable. We know that injuries are caused only by accidents, and that accidents are caused, in turn by unsafe acts or unsafe conditions. If this is true, our efforts should be directed to finding out the specific acts which cause those accidents which occur most frequently. Then, with that information definitely recorded, we should strive to simplify accident prevention work and insist upon its complete and effective application in every work operation.

Safety and Production

Back in 1917 one of the common objections to the application of safety principles in all work operations was that safeguards "slowed up production." There was quite a controversy over the safeguarding of punch presses and many other machines. But along came such clever safety enthusiasts as August Kaems, and George Thompson and others, and they demonstrated that even punch presses could be made safe without interfering with production. Four thousand plants of all descriptions have been studied, with the result that we now know that safe plants are efficient plants, and that the unsafe plants are the inefficient ones. It has been definitely established that safety and efficiency in production go hand in hand.

Attitude of the Employer

Although employers in 1917 were desirous of protecting their workers, it is nevertheless true that today employers have a much keener realization of the

effectiveness of safety methods in preventing accidents, and they are more sympathetic toward tested accident prevention methods. Safety, per se, no longer needs to be "sold." On the contrary, today it is often demanded by employers.

Nevertheless, there is still the important point of "responsibility" for accidents which is sometimes debated. Who, in short, is responsible for safety? There is but one sensible answer to that question: it is "management."

This conclusion is not open to argument. Management may disclaim responsibility for high accident frequency or severity, placing it on the "carelessness" of employees or the failure of supervision. But this is only side-stepping the issue. What would management do in the case of an inefficient workman or the oversight of a foreman who permitted spoilage of material or equipment? Safety is not a side-issue; it is a fundamental of efficient production.

It is not sufficient that the executives of a company indicate merely a favorable attitude toward accident prevention. A passive interest in safety will no more get results than would a similar passive interest in production, advertising, selling, or collections. The job of stopping accidents must have the same intense attention that is given by management to all other problems affecting operations.

Safety Efficiency Has Advanced

Twenty years ago industrial safety work was often misdirected and ineffective. An appreciation of values was lacking. Activities were largely based upon personal judgment. The safety program usually included such items as:

- (a) Machine guarding.
- (b) Improvement of housekeeping.
- (c) Attention to lighting and sanitation.
- (d) First aid and hospitalization.
- (e) Education work—safety committees, safety posters, contests, etc.
- (f) Maintenance of accident records.

All these activities were justifiable, but they were not always based on actual conditions and needs. Few safety directors analyzed the outstanding hazards—did not know the essential facts of accident occurrence in their own plants. The program was not specific enough for different types of industry, or for special hazards. A suit of clothes can be hung on a hundred men, but it cannot be expected to prove a good fit for all of them. This type of program was general in nature but often ineffective in results.

The 1937 type of accident prevention program begins with an analysis of essential facts. The facts are invariably of two kinds: (1) Unsafe Practices, and (2) Unsafe Mechanical or Physical Conditions.

These facts about the causation of accidents need first attention, and if removed or corrected throughout all the departments and plant, the maximum ef-

*Managing Director, National Safety Council. Presented at the Western Safety Conference, Portland, Oregon, August 17-20th, 1937.

fect will be noted in reducing the loss experience. It is not a simple task to segregate these outstanding conditions, but consideration should be given to:

- (1) Frequency and severity of past losses.
- (2) Exposure.
- (3) Probability of future frequent or severe losses.
- (4) The supervisory set-up.
- (5) Experience and ability of employees.
- (6) Selection, training and instruction of employees.
- (7) Procedures and processes.
- (8) Safety organization detail.

In 1937, therefore, equal emphasis is not placed, as in 1917, on ALL phases of the safety program. The correction of selected hazards in the simplest and quickest way should dominate all other activities.

Training the Employee

The 1937 brand of industrial accident prevention includes a realization that we have talked altogether too glibly about "safety consciousness" and "safe habits." Every human being has hundreds of complexes, inhibitions, and inherited traits. He worries, he is fatigued, he is in a "stew" about his woman or his automobile most of the time. Employers now realize that habit forming is a far more complicated process than was once thought. Therefore, 1937 employers lay down these specific rules for the new worker:

- (1) The new worker must understand just exactly what he is to learn and to do.
- (2) He must know how to perform the work and why he does it that way.
- (3) He must practice the operation correctly from the beginning, and never be allowed to do it in any other way.
- (4) He must be watched so that any fault in his performance may be corrected promptly.
- (5) His work may be checked from time to time—always from the angle of the learner's performance. The perfect product will not be obtained until he has mastered the process.
- (6) The new worker must be kept under supervision until the proper work habits become so fixed that they are automatic.

In 1937 the employer insists that the same mistake shall not be made twice. In fact, measures should be taken to keep it from being made even once. Surely we should not wait to guard a dangerous machine until it has taken its first toll of a finger or an eye!

The machine and equipment must be thoroughly examined and tested before the worker uses it. The accident experience of all employers within a single type of industry ought to be studied by every employer within that industry. Such studies will reveal dangerous spots. Many so-called "near accidents" occur without causing personal injury, such as—press repeats, or a piece of work kicks out of a machine, or a grinder breaks. No one is hurt, but it is a warning that somebody may get hurt on that machine, or another machine like it; and effective mechanical protection should be provided.

To sum up: the 1937 employer, in assuming his complete responsibility for accidents, must give more attention to

so-called engineering revision than was even dreamed of in 1917. He must train his entire personnel in safe habits. Rule books, lectures, posters, admonitions, discipline and similar incidental accessory methods will not insure the best work and the safest of operation. Safe habits and safe methods must be taught as part of the work job. There must be intelligent teaching, and day by day demonstration and instruction, until the worker has built into his reflexes the best and safest method of doing the job—not only for his own protection, but for the safety of fellow employees and the conservation of the property of his employer.

We need more competent safety directors. They should have all the talents, such as safety vision, safety salesmanship, and unending patience and perseverance. The safety man's job has grown considerably in 20 years. In another 20 years it will be near the top of the industrial organization.

U. S. Pulp, Paper Imports and Exports

Imports of paper and manufactures into the United States during the first six months of 1937 were valued at \$64,056,936, an increase of 26.4 per cent over the first half of 1936. News print paper as usual accounted for nearly 90 per cent of these imports and was chiefly responsible for the rise in the value of the total receipts. Importations of this particular item up to the end of June totaled 1,546,595 tons, an increase of 21.5 per cent over last year. Owing to the higher prices in effect since the first of the year, the value, \$56,853,342, shows an increase of 28.3 per cent for this period.

Other paper imports had an aggregate value of only \$7,203,594, an increase of 13.5 per cent over 1936. Increase occurred chiefly in imports of printings other than news print, greaseproof and waterproof papers, miscellaneous wrappings, uncoated tissues, boards, and cigarette papers. Imports of kraft papers again rose during June but not sufficiently to bring the six months total up to the level of the same period last year. Imports of this article amounting to 10,363 tons were 15.7 per cent under the amount recorded for the first six months of 1936.

Imports of nearly all classes of paper base stocks have been higher during the first six months of the current year. Pulpwood receipts show a rise in volume of 35 per cent and in value of 45 per cent. Wood pulp receipts show a rise in aggregate volume of 14 per cent. The heaviest increase in this group occurred in imports of unbleached sulphite which were 26 per cent higher than last year. Increases of approximately 10 per cent occurred in imports of bleached sulphite and bleached sulphate. Imports of kraft pulp (unbleached sulphate) on the other hand, were only 2 per cent higher than in 1936. In the waste group, imports of rags for paper stock declined by 6 per cent, a reduction about offset by an increase of 19 per cent in imports of other classes of waste.

Total imports of paper base stocks during the six months ended June 30, 1937, were valued at \$54,526,544, comprising 538,341 cords of pulpwood valued at \$3,996,231, 1,165,782 tons of wood pulp valued at \$46,156,081, and 108,912 tons

of rags and other waste valued at \$4,374,232. Imports during the first 6 months of 1936 were valued at \$43,764,336, comprising 397,817 cords of pulpwood valued at \$2,817,450, 1,023,585 tons of wood pulp valued at \$37,475,562, and 107,992 tons of waste valued at \$3,471,324.

Exports of paper and paper manufactures from the United States totaled \$15,145,695 for the six months ended June 30, 1937, according to figures just released by the Forest Products Division of the Bureau of Foreign and Domestic Commerce. This figure represents an increase of 37 per cent over the amount recorded for the corresponding six months in 1936, and while some of this gain is due to the higher average export prices obtained, we find that with the exception of news print paper and boxboards, the volume of shipments of all classes were also higher than for the same period last year. In the fine paper group, exports of book papers were more than double, exports of surface-coated papers higher by 35 per cent and exports of writing papers higher by 31 per cent than for the first half of 1936. Exports of cover papers and bristols, minor items in this group, rose by 48 per cent and 58 per cent respectively. In the wrapping paper field, exports of greaseproof and waterproof papers increased by 25 per cent and exports of kraft wrappings by 37 per cent this year. Shipments of overissue newspapers, which go chiefly to the Far East where they are used as a substitute for wrapping paper, also show a heavy increase, being 53 per cent higher than a year ago.

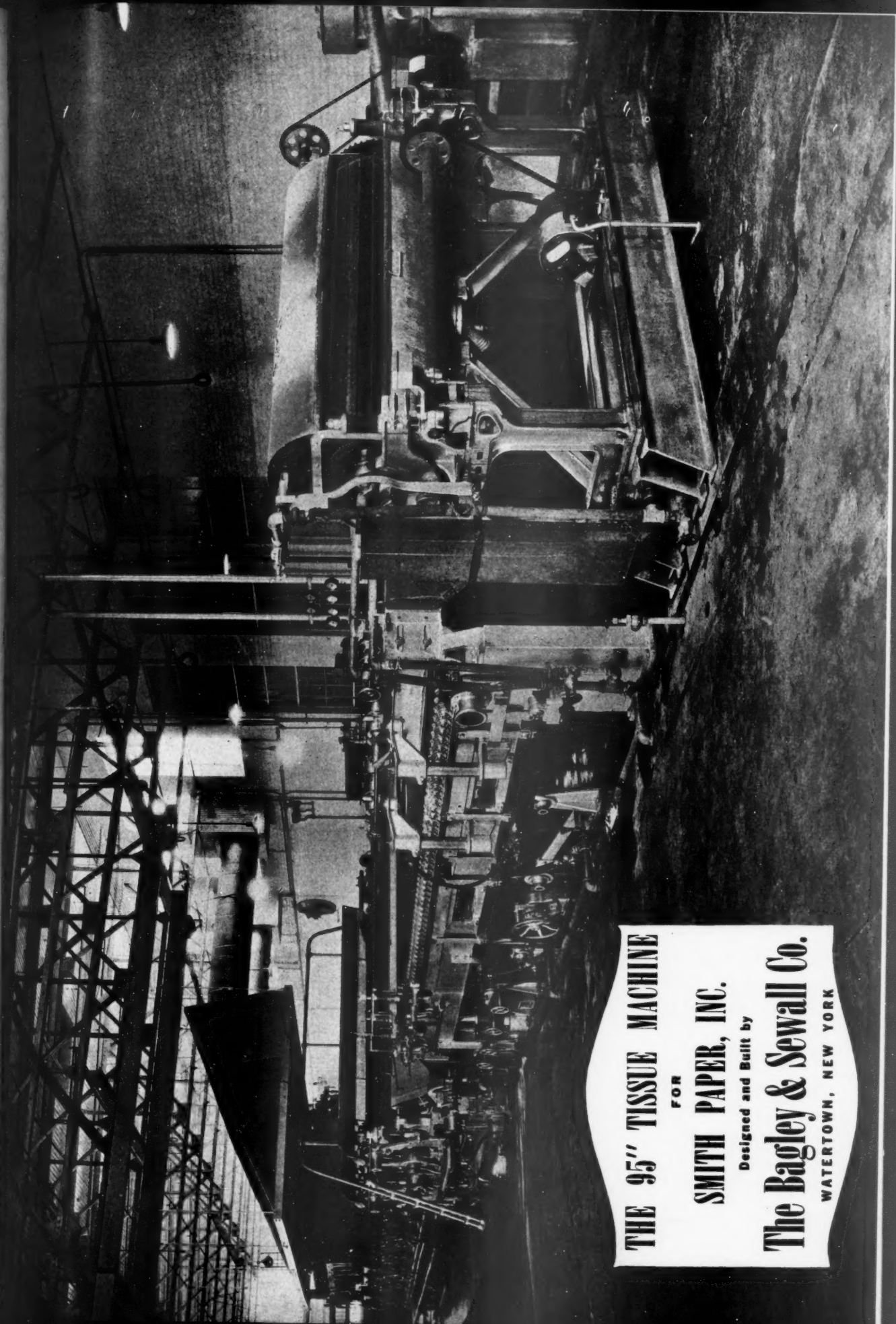
Exports of boxboards during the current year have been running behind those for corresponding periods in 1936 and a heavy increase in the June shipments was insufficient to offset earlier losses. A decline of 10.5 per cent in the six months' shipments of this particular class was more than offset by a rise of 2,000 tons or 36.6 per cent in exports of other paperboards. Exports of boxes also increased by 24 per cent. Building products are among the items which have picked up considerably this year. Wall board exports show only a slight gain—less than 5 per cent—but shipments of fiber insulating boards were 30.8 per cent higher and of sheathing paper 87 per cent higher than during the first half of 1936.

In addition to paper, the United States shipped to foreign countries paper base stocks to the value of \$8,657,735, as against \$5,461,713 during the first six months of 1936. This increase is largely due to the rise in exports of bleached sulphite pulp, which were more than 50 per cent higher than during the first half of 1936. Shipments of the former were 74 per cent higher and of the latter 167 per cent higher than during the corresponding period last year.

Rosenlew Sulphite Mill Partially Rebuilt

According to the Finnish Paper & Timber Journal of July 31st, the Rosenlew sulphite cellulose mill at Bjorneborg is at present being partly rebuilt in order to modernize the technical process. In the bleaching department the Kamy method is being adopted. The Bjorneborg Pappersbruk, also belonging to the concern, is partly rebuilt in order to increase the annual production from 25,000 to 35,000 tons.

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THE 95" TISSUE MACHINE
FOR

SMITH PAPER, INC.

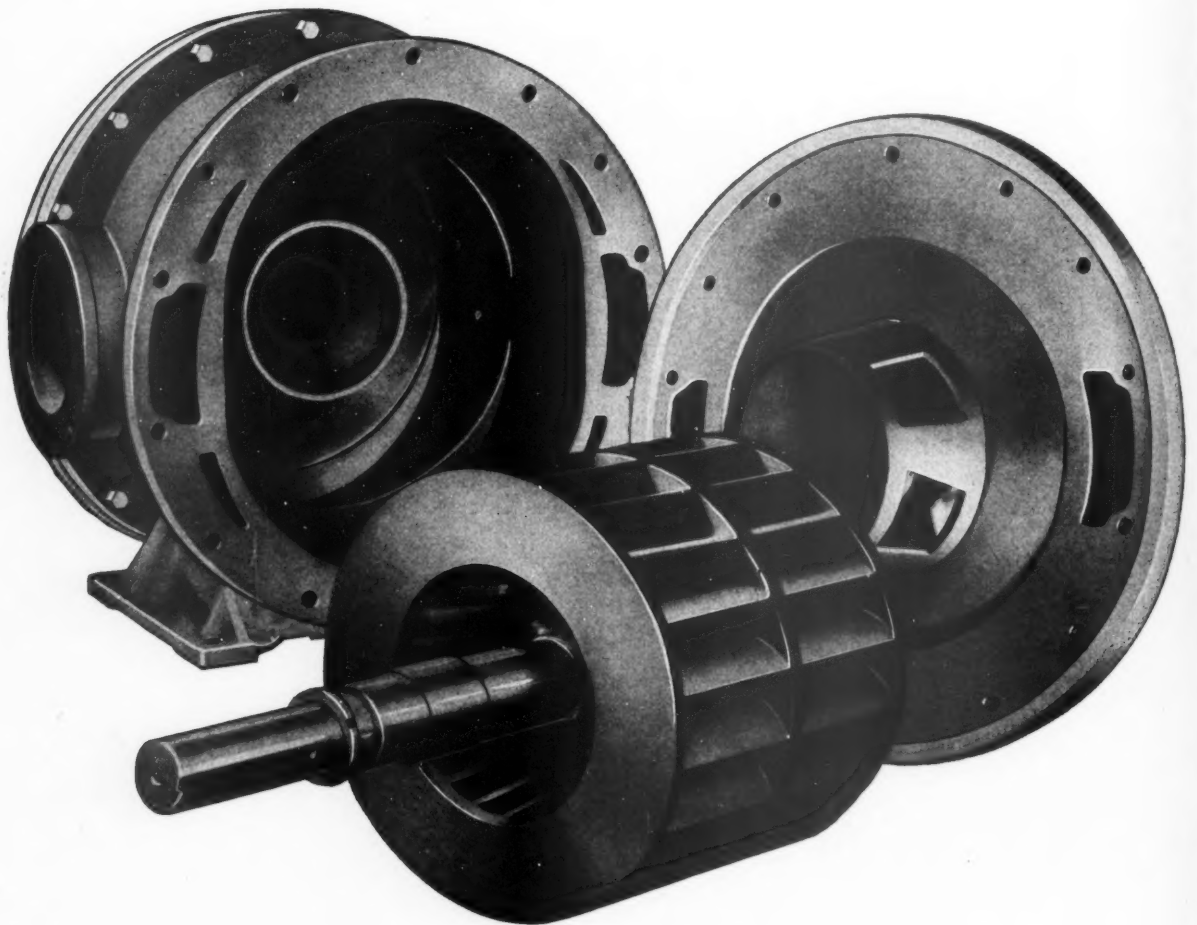
Designed and Built by

The Bagley & Sewall Co.

WATERTOWN, NEW YORK

S I M P L I C I T Y !

NASH VACUUM PUMPS HAVE
ONE MOVING PART.



Operating advantages made possible by the Nash principle, and present in no other type of vacuum pump, permit a new level of operating economy. Nash Vacuum Pumps have but one moving part, a rotor cast in one piece, and revolving without metallic contact. There are no valves, no pistons or sliding vanes, no internal parts

requiring wear adjustment, or lubrication.

Vacuum produced by a Nash Pump is non-pulsating without equalizing tanks. Liquid entering the pump does no harm, even in slugs. Reliability and durability are inherent in the simple Nash construction, and these qualities are assured by superior material and workmanship.

THE NASH ENGINEERING COMPANY
SOUTH NORWALK, CONNECTICUT, U. S. A.

Trade Talk



of Those Who Sell Paper in the Western States

Rollin C. Ayres Dies in Oakland

Rollin C. Ayres, widely known advertising man of San Francisco, died at his home, 292 Jane Street, Oakland, August 20th at the age of 64.

Mr. Ayres for 27 years held the position of advertising counsellor for the Zellerbach Paper Company, and for the last two years was also vice-president of James Houlihan, Inc. He was the first president of the San Francisco Advertising Club, organizer of the Seattle Advertising Club, founder of the truth in advertising movement and author of the "treaty of unity" advocating better understanding among cities.

Surviving Mr. Ayres, are his widow; two sons, Rollin C. Jr. and Allen; a daughter, Mrs. Vestal Mauve and two sisters, Mrs. Carl Brockhagen and Mrs. S. T. White.

Crikelair Named Phoenix Manager

David J. Crikelair of the Los Angeles office of the Zellerbach Paper Co. has been named manager of that firm's Phoenix division succeeding the late Clem Reis. Mr. Crikelair was a printing paper salesman at Los Angeles.

Crown Willamette Sales Changes

James Kincaid of the San Francisco sales department of the Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, was transferred during August to take charge of the company's sales work out of Omaha, Nebraska.

C. O. "Nick" Carter in charge of sales in Seattle was transferred to San Francisco to take Mr. Kincaid's place. R. D. Dickey, who spent several years in Seattle for Crown Willamette prior to going to Texas was transferred back to his former territory.

Recreation Club Plans Dance

The Zellerbach Recreation Club of San Francisco has scheduled a dance for October 2. The club is made up of employees of the Zellerbach Paper Co. and Johnny Dockrell is president.

O'Neill Ill

Illness recently confined to his home Edward L. O'Neill, acting secretary of the San Francisco Paper Trade Conference. He returned from his vacation and went home sick two days later.

L. A. Paper Men Plan Bigger Hi Jinks

A Hi Jinks to cap all Hi Jinks has been planned by the Paper Mill Men's Club of Southern California. The third annual party of this type, this year's event from plans and indicated list of sponsors and guests, bids well to far outshadow the fine affair held last year. Main events of the party are the golf tournament and banquet. The scene of the event will be California Country Club at Culver City and it will take place Friday, October 8. The golf tournament will start at noon, and the banquet at 7 p.m.

A meeting was held August 27 at the Clark Hotel in Los Angeles to advise the members of the details of the party and to make the final arrangements. General chairman of the committee is Russell F. Attridge. Members of the committee are Frank N. Gladden, Frank R. Philbrook, Fran Jenkins, Arthur Carlson, Lester Remmers, Arthur Kern, Dewey Megel and W. Bruce Swope.

Special arrangements have been made to raise funds and begin plans toward the annual Christmas dinner which the Club sponsors for a group of underprivileged boys. Clothes, a dinner and Christmas gifts are purchased for the lads.

Pell On Movie Expedition

R. C. Pell, head of the Pelican Paper Co., San Francisco, left August 26 on another of his far picture-taking trips, this time going to Japan and, maybe, Indo-China, seeking material for his "Pelograms" series of interesting motion pictures. He will be gone three months.

Running the Pelican Paper Co. in Mr. Pell's absence is Lauren L. Locey. Mrs. Pell accompanied her husband.

Form Printing Paper Conference

The printing paper distributors of Los Angeles and vicinity have incorporated a trade organization under the California state laws as a non-profit concern being styled the Printing Paper Conference of Southern California. This program follows similar action taken earlier by the wrapping paper merchants.

Stratford Taking Rest

A leave of absence has been taken by Frank C. Stratford, manager of the San Francisco division of the Zellerbach Paper Co., and he is spending it on a well-earned rest at Pebble Beach. T. A. Leddy is acting manager in Mr. Stratford's absence.

Blake, Moffitt & Towne's New San Francisco Home

Of importance in today's industrial news of San Francisco is the move which Blake, Moffitt & Towne, large pioneer paper merchants of the Pacific Coast, are making from their First Street location to new and more adequate quarters at 599 Eighth Street, corner of Brannan. The building, with frontage on two of the city's main trucking arteries and providing over 80 per cent more space than the old location, was acquired some months ago from the National Carbon Company in a transaction considered as most significant in the city's commercial development following the opening of the San Francisco Bay Bridge.

The building, of reinforced concrete construction, consisting of four floors and basement, has been completely reconditioned to accommodate the company's large stocks of paper, paper products and twines and to house the sales and executive offices which serve as headquarters for the organization's coastwide chain of fifteen divisions, of which San Francisco is the parent house, having been established here as a pioneer business over eighty years ago.

In planning, every thought has been given to the creation of ideal working conditions so that the new plant, as it stands ready for occupancy, ranks as one of the finest of its kind in the country. Windows on three sides admit a maximum amount of daylight and provide admirable ventilation, while the installation of modern conveniences and business aids, include a sound-absorbing ceiling and a pneumatic tube system for handling orders. On the roof of the building, two commodious recreation rooms, one for men and one for women, have been provided.

On the first floor, within easy access to the trade, is located the sales and promotion department, with equipment for displays of current exhibits of fine printing and papers.

Carefully planned warehouse arrangements make for efficient handling of the large paper stock carried. A railroad spur track enters the side of the building and leads to an inside court where incoming freight is handled over loading platforms. These platforms will also be used to assist in the prompt dispatch of orders by the company's delivery trucks. The latest equipment within the warehouse assures rapid service in handling orders, as, for example, a spiral chute which runs from the fourth floor to the center of the shipping department and an endless belt conveyor from the basement to the same location. Added efficiency is supplied by a loud-speaker system enabling the shipping department to get into instant communication with stock clerks on any floor.

Small orders are filled from bin stock,

HALOPONT* COLORS

possess two outstanding attributes

**ALMOST
INSTANTANEOUS
DISPERSION**

**RAPID
DEVELOPMENT IN
THE BEATER**

WHEN added to water, the HALOPONT colors disperse almost immediately and form a perfect suspension which will remain stable over extended periods of time.

Their physical constitution enables them to be added to beaters or chests in dry form.

They develop to their full shades in the beater in ONLY SEVEN to TEN minutes.

These are important advantages in the coloring of paper, reducing the element of time to a minimum and effecting economies in operation.

The HALOPONT series comprises a range of colors which should answer the needs of the paper industry from the standpoint of fastness and ease of application.

HALOPONT colors possess excellent fastness to light, show good resistance to acid and are fairly fast to alkali and chlorine. They will cause no graniting or bleeding.

* Reg. U. S. Pat. Off.



E. I. DU PONT DE NEMOURS & CO., INC.
ORGANIC CHEMICALS DEPARTMENT
DYESTUFFS DIVISION
WILMINGTON, DELAWARE, U. S. A.

the shelves of which are adjustable in accordance with the space required. Much of the merchandise, however, is stacked on skids which allow the free movement of merchandise from place to place. Specially constructed portable electric hoists are used in handling cases of paper. The building is equipped with two fast freight elevators and in addition a passenger elevator serves the offices on the second floor.

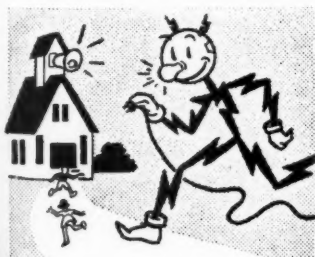
An inter-dialing telephone system provides efficient inter-department communication and a telephone order department has been installed to receive incoming calls from the trade.

A complete paper testing laboratory, the only one of its kind in the West, is located on the first floor and is equipped with a humidifier to maintain a constant temperature and moisture content. This humidifier also serves an area designed for the storage of special stocks requiring constant atmospheric conditions.

In commenting on the new building O. W. Mielke, general manager of Blake, Moffatt & Towne, stated, "This move to new and more adequate quarters was prompted by the needs of an expanding business and a belief in the future of the city in which this pioneer enterprise was founded over eighty years ago. We are glad to make this announcement to our many friends and customers, for without their continued support and loyalty, the opening of this plant, which ranks with the finest of its kind in the country, could not have been accomplished."

REDDY KILOWATT

Your Electrical Servant, Says.



*"The school bells ring;
The kids shout in glee—
I'll help them work,
Which pleases me."*

**PUGET SOUND POWER
& LIGHT COMPANY**

"To Best Serve the Public Interest"

Clement Reis Dies in Phoenix

Mr. Clement F. Reis, manager of the Arizona division of the Zellerbach Paper Company, died suddenly in Phoenix July 19. Mr. Reis was located in the Los Angeles territory for several years prior to his move to Phoenix. He was president of the Polytechnic High School Alumni Association when in that city. He also served as president of the Sales Managers Association of Los Angeles, and was a member of the Los Angeles and Phoenix chambers of commerce. Mr. Reis leaves his widow, Mrs. Lillian Hjelm Reis, past division director of the Tenth District Parent-Teachers Association, and four children.

Wuenschel Attends Hammermill Conference

J. F. Wuenschel, sales manager of the Grays Harbor Pulp & Paper Company, Hoquiam, Washington, attended and addressed the 26th annual conference of Hammermill agents in Erie, Pennsylvania August 26th and 27th.

Habels Taken By Death

E. C. Habels, associate of Ralph Reed in the Co-operative Sales Agency, paper jobbers and brokers, in Los Angeles, died suddenly July 3. Mr. Habels had been in the paper business in Los Angeles for the past four years. He is survived by his widow and a son and a daughter.

Doane Paper Moves to Seventh & Folsom

Doane Paper Co., San Francisco, has moved from 558 Howard Street to 298 Seventh Street, corner of Folsom.

Bonestells Traveling

Off on another trip to far places, H. S. Bonestell, president of Bonestell & Co., pioneer San Francisco paper jobbers, left on the Japanese liner "Chicubu Maru" from San Francisco Sept. 1 for Australia, accompanied by Mrs. Bonestell and Mrs. Cutler Bonestell. The party may be gone until January visiting the Antipodes and the south Pacific. Mr. Bonestell and his family are greatly interested in traveling and have covered many parts of the world in their tours over the years.

Scheniman Paper Increases Space

The Scheniman Paper Company of El Centro, California, completed a program of improvements this summer which included the construction of a 40x60 foot warehouse addition.

Established in 1920, the Scheniman Paper Company serves a large number of customers in the Imperial Valley, specializing in paper products used by produce growers, packers and shippers.

SUPERINTENDENT OR ASSISTANT SUPERINTENDENT—30 years experience kraft, sulphite and specialty papers, greaseproof and glassine, Imprint, Fourdrinier and Yankee machines. Expert colorman. Address reply Box 16, care Pacific Pulp & Paper Industry, 71 Columbia St., Seattle, Wash.

Customs Investigating Glassine Imports

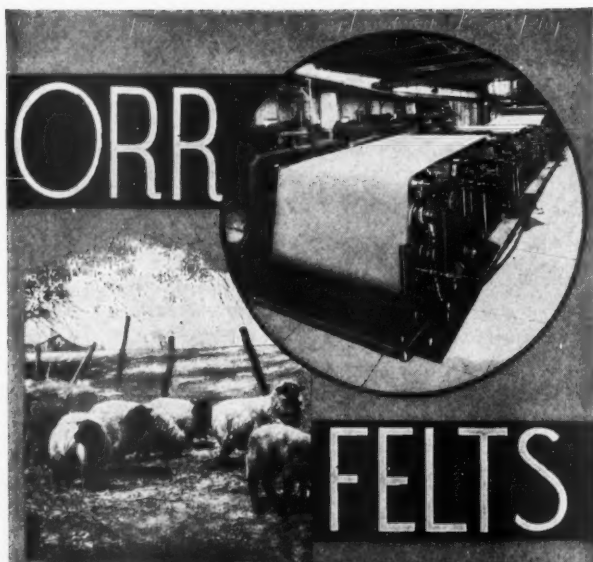
That the Customs officials are making investigations of the possible dumping of foreign papers is shown by the fact that the Washington authorities have called on Customs officials at various ports for information as to imports of glassine, M. G. Kraft and M. G. Sulphite Wrappings under the procedure required by the Anti-Dumping Act. When there is prima facie evidence that foreign merchandise is sold for export at less than the prices prevalent in the countries of origin, routine investigations are being made, even though there may be no anti-dumping notice issued later when the issue reaches the Treasury Department higher officials.

Customs officials at various posts are making an intensive study of foreign valuations of glassine since the Import Committee of the American Paper Industry pointed out that the actual sale prices for the American market are not in accord with the cost of production abroad since prices of pulp advanced so markedly. Even before this study was initiated the officials had ruled that Swedish glassine was being undervalued.

**PULP
BLEACHING
COMPANY**

**ORANGE
NEW JERSEY**

**CELLULOSE
PURIFICATION**



2 plus 2 = 4

Simple arithmetic.

Another easy problem to solve is that of choosing the correct felting. The answer, as provided by comparative tests in many mills, is Orr.

Reasons for that answer are twofold. Orr has a complete line of highest quality felting. Orr has the ability to grasp your water extraction problem and select the particular felt required to solve it.

Consider these facts when felting costs become a thorn in your side. The Orr representative will be glad to offer his assistance.

The Orr Felt & Blanket Co.

PIQUA, OHIO

Pacific Coast Representative: WALTER S. HODGES
Pacific Bldg., Portland, Oregon

Printing Trends In Europe

In the September Informant, published by the Zellerbach Paper Company, appears a short article by Mrs. Glory Palm, assistant to Victor Hecht, prepared while on a vacation trip in Europe.

Mrs. Palm notes that "Europeans, generally speaking, use more printing to specifically convey information. Especially is this true in hotels, where cards drawing attention to unusual services are placed at strategic points." Mrs. Palm sent back an example of this which is reproduced in The Informant.

She goes on to say:

"Printers in Europe must of necessity have in their employ, or readily available, a qualified linguist because instructions of any importance are invariably printed in three languages. Time tables, menus, etc., in French and German railroads are printed in French, German and Flemish (this last for the benefit of Belgian passengers). In the Scandinavian countries they usually are printed in English and German, in addition to the language of the country.

"Copenhagen's leading department store distributes a clever broadside, the entire spread devoted to a humorous cartograph map of the city of Copenhagen, the side-margins being used for a description of the places of interest. Included in this folder is a half-section cartograph of the store itself, showing floor by floor where the various commodities carried may be found. Egmont Petersen Company, who produced this piece, explained that the original run in Danish was but 50,000, but that it was also produced in four other languages, using the same plates inasmuch as the map was keyed with numbers and only the body-matter had to be changed. Thus an ordinary run of 50,000 was boosted to a quarter million.

"Civic pride plays a notable part in the field of merchandise exploitation in all European countries. A firm of importance has invariably stood the test of age, and in so doing its activities are interwoven with the city where it is located. This is well demonstrated in a book entitled, "A Copenhagen Attraction" which through halftone and the printed word gives the history of the "House of Heering," makers of fine liquors. The firm's beginning and growth are told in an interesting story which opens with a two-page description of the city, gradually leading up to the actual locality of the distillery and thence to its activities.

"The 24-sheet poster is a rarity in Europe, but its stepchild, the one-sheet poster, makes up in distinctiveness what it lacks in size. Usually produced in six colors, these posters are works of art that speak loudly and well of the skill of their creators. Few words are used in these productions—the picture itself being sufficient to tell the story. The obvious is thrown to one side and much is left to the imagination of the beholder... more perhaps than the average American commercial artist would feel prudent. This was well evidenced in a poster seen in Paris which featured Maurice Chevalier, but showed only a straw hat at a rakish angle, and a jaw line—followed by "At the Casino de Paris now." Nowhere on the poster was Chevalier's name shown, yet the printer who produced it assured me that it was not intended to be a teaser.

"Every good print shop in Europe is especially proud of their American presses, and mechanical superintendents assured me that they would have nothing else if trade conditions permitted. All of them view THE INFORMANT with tremendous interest and evidenced great surprise in and commended the work done by a paper dealer in the interest of the Craft.

Forest Fire Insurance Feasible

Forest fire insurance is recommended as feasible and profitable, if precautions are observed, according to a report by H. B. Shepard, of the Forest Service, U. S. Department of Agriculture.

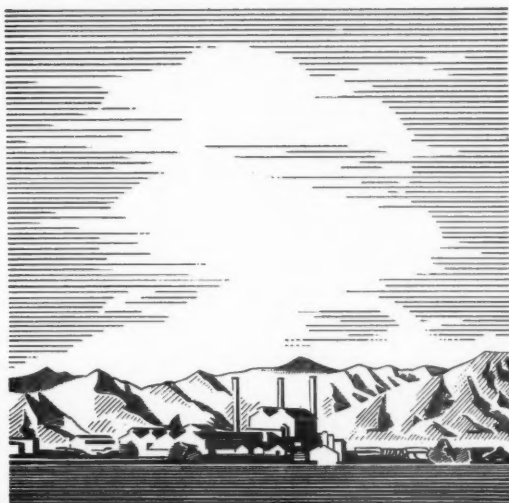
Mr. Shepard finds insurance at reasonable rates possible for a large portion of the privately owned forest property in the Pacific Coast states—where his studies were made—in spite of the fact that the destructive Tillamook fire in Oregon occurred while investigations were in progress. Its consequences were given full weight.

The chief requirement of successful forest fire insurance will be wholehearted support by timberland owners, Mr. Shepard points out. He explains that economical forest fire insurance is feasible mainly because of the standards achieved in organized fire protection, standards which must be maintained if insurance is to endure.

Results of Mr. Shepard's investigations have been published by the Department of Agriculture as Technical Bulletin No. 551, "Forest Insurance in the Pacific Coast States." Copies can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 20 cents each.

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Sulphate



SODA ASH

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Carbonate



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609 So. Grand Ave., Los Angeles

Plant at Trona, Calif.

Eastern Office
70 Pine St., New York

Manufacturers of Trona Brand Muriate of Potash, Three Elephant Borax and Boric Acid

Polo Injury Fatal to Howell H. Howard

Howell H. Howard, treasurer of the Aetna Paper Company, Dayton, Ohio, was critically injured July 8 when his pony fell during a polo game at the Meadow Brook Hunt Club in West Brook, Long Island.

Mr. Howard never regained consciousness after the accident and died at the Nassau Hospital Friday afternoon, July 9.

Mr. Howard was born on January 29, 1898, the son of the late Lillian Hoffman of Cincinnati, and Colonel Maxwell Howard of Lebanon, Kentucky. He was graduated from Yale in 1919. He later attended Oxford and made a reputation at polo and steeplechase riding.

He held a five-goal rating according to the United States Polo Association's handicap lists, and was regarded as one of the Middle West's leading exponents of the game.

For seven years Mr. Howard has been very active in the paper industry. In addition to being treasurer of The Aetna Paper Company of Dayton, Ohio, he was affiliated in an official capacity with The Howard Paper Company, Urbana, Ohio, The Maxwell Paper Company, Franklin, Ohio, and The Dayton Envelope Company of Dayton, Ohio.

Mr. Howard has been well known in the paper industry from coast to coast and has been closely associated with his father, Colonel Maxwell Howard; his uncles, Ward R. Howard and Louis Howard.

Also surviving are his wife, Loretta

Howard, and four children, Loretta, Howell, Jr., Lynn and Dierdre. Also a sister, Eunice Howard.

Funeral services were held Monday, July 12, at home in Jericho, Long Island, N. Y.

Carpenter Men Inspect L.A.

Mr. "Zeke" Carpenter of Omaha and Bert Field of the Carpenter Paper Company organization visited Los Angeles during July to inspect the new building now being completed to warehouse the stocks of their local company.

British News Print Prices

One of the foremost news print producers in the United Kingdom has been successful in securing concessions from the owners of London newspapers on contracts for news print-covering the 1938 period. According to Financial News (London), at a meeting of certain London newspaper proprietors with the directors of the company, they are agreed in principle that payment for news print supplies in 1938 should be increased by 30 shillings (\$7.47 at current exchange rate) a ton for the contract price of £10 (\$49.80) a ton. The ton referred to is the British ton of 2,240 pounds, which would make the new price equivalent to about \$51.00 per short ton. (Assistant Commercial Attache James Somerville, London.)

British Raise News Print Price

The News Print Association of Canada has informed Canadian manufacturers that a recent report from Montreal, Canada stated that for new 1938 contracts English news print paper mills are quoting a price equal to \$62.25 per short ton. This is an increase of \$17.79 over the 1937 contract price of \$44.46.

The Association also stated that revisions have voluntarily been made in existing contracts for 1938 deliveries which were signed at £10 sterling and have now been fixed at £11 10s sterling, an increase of \$6.67 to an equivalent of \$51.13.

Rainier Has Fine Safety Record

The Rainier Pulp & Paper Company of Shelton, Washington, mailed its entry in the annual safety contest sponsored by the National Safety Council, August 31st, with a record of 76 consecutive working days without an accident of any kind.

French Wood Pulp Production in 1936

French wood pulp mills are reported to have turned out during 1936 a total of 340,000 metric tons of pulp divided as follows:

	Metric Tons
Mechanical pulp	240,000
Unbleached sulphite	48,000
Unbleached sulphate	34,000
Bleached sulphate	18,000

(Vice Consul Jack E. Cocke, Nantes.)



Where Millions of Dollars Must be Protected ...

THE BASE OF MODERN ROOFING is not asphalt, but paper. This paper must not only be strong enough, but absorbent enough, to serve as the vehicle for the great weight of the mineral mastic that makes the roofing watertight. The comparative low grade of the furnish used for the manufacture of roofing paper must be offset by a high degree of technical precision in the formation of the sheet. By removing the excess water uniformly and at high speed without delays for adjustment, Hamilton Felts have proved indispensable to the economical production of the basic material for the roofing and building industries.

...

From the finest tissue to the coarsest board, there is a Hamilton Felt that will do your work faster, better and at lower cost.

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